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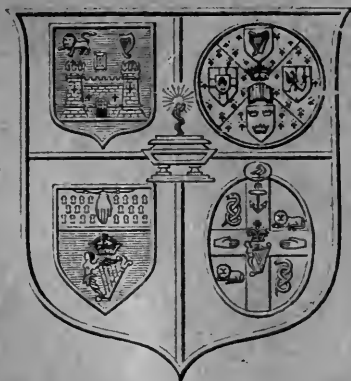
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2. Blätter für klinische Hydrotherapie. III. Jahrgang. Nr. 3. Wien, März, 1893.

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4. The first International Congress of Gynecology and Obstetrics. Delegate's Report to the New York Obstetrical Society. By George M. Edebohls, A.M., M.D. New York. 1893. Pp. 6.

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11. Prospectus of the London Post-Graduate Course. Fourth Year. Summer Term, 1893.

12. Diseases and Injuries of the Ear. By Sir Wm. B. Dalby, F.R.C.S., M.B. Cantab. Fourth Edition. London: J. & A. Churchill. 1893. Crown 8vo. Pp. 279.

13. Revue Générale de Médecine, de Chirurgie, et d'Obstétrique. Deuxième Année. No. 13, 14, 15. Paris: O. Doin.

14. The Humanitarian. Vol. II. No. 4. April, 1893.

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21. Bulletin of the Johns Hopkins Hospital. Vol. IV. No. 29. Baltimore. March, 1893.

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23. Arcachon: its advantages as a Health Resort. By the Rev. Samuel Radcliff, British Chaplain. London: Thomas Laurie. Second Edition. 1893. Pp. 64.

24. Bloodless Amputation of the Hip Joint by a New Method. By Nicholas Senn, M.D., Ph.D. Chicago. 1893. Reprint. Pp. 23.

25. The Medical Magazine. Vol. I., No. 10. April, 1893. London: Southwood, Smith, & Co.

26. The Clinical Examination of Breast Milk. By L. Emmett Holt, M.D. New York: M. J. Rooney. Reprint. 1893. Pp. 12.

27. Extensive Railroad Injury—Fistula in Ano-Peritonitis. By Thomas H. Manley, M.D. Reprint. 1892. Pp. 3.

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OF

## MEDICAL SCIENCE.

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# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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MAY 1, 1893.

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### PART I.

### ORIGINAL COMMUNICATIONS.

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ART. XV.—*Preliminary Note on the Uses of Thiocamf.*<sup>a</sup> By  
GEORGE F. DUFFEY, M.D., Univ. Dubl.; F.R.C.P.I.; Pro-  
fessor of Materia Medica and of Pharmacy, R.C.S.I.;  
Physician to the City of Dublin Hospital, &c.

A NUMBER of antiseptics have been recently brought under the notice of the public and the profession for general, medical or surgical use. In the case of those employed by the surgeon, where the chief action it is desired the antiseptic should exert is a direct or local one, the results of suitable applications properly used are frequently most satisfactory. The efforts of physicians to secure intestinal antiseptics have not hitherto been so favourable. Most of the preparations used with this object, such as solution of chlorine (Yeo), eucalyptus, thymol, creasote, salol, benzoic acid, &c., can have but little if any local effect on the intestinal canal or its contents. Whatever beneficial action they may exert follows their absorption, either in the stomach or upper portion of the duodenum, and their subsequent elimination in an altered form. Any direct or local action on the intestine that such drugs as carbolic acid, salicylate of bismuth, bromol,  $\beta$ -naphthol, benzo-naphthol, naphthalene,

<sup>a</sup> Communicated to the Dublin Biological Club, 11th April, 1893.

betol (salicylate of  $\beta$ -naphthol-ether), &c., can have, should they, even with a protective coating of keratine, reach the intestinal canal from the stomach undissolved, must necessarily be very limited.

I have tried from time to time most of the different drugs I have named in cases of enteric fever, and found that none of them procured complete deodorisation of the fæces or had any marked effect upon the usual course of the disease. The dose that can be safely administered of most of them has to be a small one, and the serious results occasionally following their absorption have to be carefully guarded against. Again, in the case of such a disease as enteric fever, in which a large extent of the terminal portion of the small intestine may be implicated, it is obvious that any local action of an antiseptic in a liquid or a solid form, may be exhausted in a portion of the intestine far removed from the affected region.

The disinfection of a room and its contents can be effectively accomplished only by the disinfectant being brought into contact with every part of the walls, floor, and ceiling of the apartment, and with everything in it. Consequently, the best method at the present time for the purpose is disinfection by such gases as are known to have the power of destroying the vitality of various bacteria. It would seem, therefore, that if a non-poisonous and harmless disinfectant and bactericidal agent could with safety be introduced in sufficient quantities into the small intestines through the stomach in a gaseous state, it would, theoretically, approach the ideal form of an intestinal disinfectant. As an effort in this direction I desire to bring under notice in a brief and necessarily very imperfect preliminary communication a preparation which I believe will prove a useful antiseptic for medical and surgical use. I trust that what I have to say about it will at least induce my readers to give it a trial.

Last autumn I was reminded of a disinfectant that had been devised by Professor Emerson Reynolds, and was described in a paper read by him at a meeting of the Royal Dublin Society on May 22, 1889. I am sorry to say that this disinfectant is by no means so well known as I believe it deserves to be. It was patented by Professor Reynolds, and is made in large quantities by a firm of manufacturers of chemicals in



London.\* Originally intended, and now largely used, as an atmospheric disinfectant and for the ordinary purposes for which a household disinfectant is employed, it occurred to me that "Thiocamf," as the material is called, would also be an excellent intestinal antiseptic, a useful antiseptic surgical application, and an effective parasiticide in certain cutaneous affections.

Thiocamf, as the name indicates, is a combination of sulphur ( $\theta\epsilon\iota\omega\nu$ ) dioxide and camphor. It is described by Prof. Reynolds as being a peculiar "liquid which results when sulphur dioxide gas is brought in contact with camphor." At ordinary temperatures the gas alone requires a pressure of more than two atmospheres to liquefy it; but camphor, owing to chemical attraction, can liquefy the sulphur dioxide gas without any pressure whatever. In this liquid are dissolved several known bactericides, amongst them phellandrene—probably the most active ingredient of eucalyptus—and benzoic acid. Thiocamf possesses almost unique properties, for, while it can be preserved without pressure in bottles at mean temperature, mere exposure of the liquid in a thin layer to the air determines the steady evolution of relatively enormous volumes of sulphur dioxide gas from it, charged with the vapours of other powerful disinfectants.

The use of sulphurous acid as a deoxidising antiseptic and disinfectant has long been known; and its administration in the B. P. aqueous solution as a means of arresting fermentation in flatulent dyspepsia, and in sarcinous vomiting, is often followed by excellent results. It consequently occurred to me that if this remarkable preparation could be introduced through the stomach into the small intestine, and the gas then evolved diffused through the intestines, an effective means of disinfecting them might be obtained.

Comparatively recent experiments by MM. Dubief and Bruhl (quoted by Prof. Reynolds from *Comptes rendus, Acad. des Sciences*, t. cviii., 324) show that sulphur dioxide gas can destroy bacteria, particularly the infective forms, when it reaches them.

I communicated my idea to Prof. Reynolds, and he most kindly took it up warmly, and gave me all the assistance which his skill and knowledge of the subject so eminently enabled him to do.

\* Thomas Tyrer & Co., Stirling Chemical Works, Abbey-lane, Stratford, London, E.

We had first to consider in what form and in what dose Thiocamf should be given. The choice of a vehicle was limited to fats, the fixed oils, or spirit. Prof. Reynolds proposed the use of pure butter fat—freed from water and salts—as an excipient, and was good enough to make a preparation containing ten per cent. of Thiocamf. This, at my suggestion, was put into gelatine capsules, which when filled contained as nearly as possible ten grains of the mixture. In making the mixture, care has to be taken to melt the fat at as low a temperature as possible, as otherwise it would give off its  $\text{SO}_2$ . On the 14th October, 1892, I took one of these capsules. Fifteen minutes afterwards an eructation tasting strongly of  $\text{SO}_2$  occurred. This was repeated in five minutes, and again at three intervals of fifteen minutes each. No other effect was perceived. At that time I had a patient under my care in hospital who was, I calculated, in the fourth week of a severe attack of enteric fever. She had vomiting, meteorism, and much abdominal pain. I gave her, on October 15th, three capsules of Thiocamf—one every third hour—and four on the following day at the same intervals. She suffered a good deal from eructations after the capsules, but was otherwise somewhat better. I examined the stools and agreed with the nurses' reports that they were much less offensive than they had been. At this time I had not thought of having the capsules coated with keratine solution, with the object of rendering them insoluble in the gastric juice, so that they might pass into the intestine unchanged and be there dissolved by the alkaline liquids in the intestines. I subsequently gave her on the 20th three capsules so prepared for me by Mr. Wells, of 20 Upper Baggot-street, Dublin, the apothecary to the hospital, and found they were not followed by eructations. The case eventually made a good recovery. Another case in which I gave uncoated capsules of Thiocamf, with benefit, was that of a man, aged 32, with phthisis, who suffered from pyrosis. The attacks came on two or three times a day and during the night. On November 7th I gave him four capsules—one every second hour. On the 9th he reported that he had only vomited once since he had commenced the capsules, and that he was sure they had done him good, and that he had now no pain in the stomach, but had had before taking them. In another case of dilatation of the stomach in an elderly man, the capsules gave temporary relief. And in a

woman with well-marked alcoholic peripheral neuritis, who had most foetid alvine evacuations, their odour was removed by the administration of the keratine-coated capsules. At present I am using prepared lard as an excipient for Thiocamf. Theobroma would also be a suitable vehicle.

Although the cases I have adduced in which I have had an opportunity of giving Thiocamf internally are so few—as no cases of fever have been admitted during the past six months into the City of Dublin Hospital, and several of the wards are closed during its rebuilding—I trust I may not be considered to have brought forward the preparation prematurely. I do so in the hope that those who have larger opportunities than I have will try it. So far as I have seen, it has certainly no injurious effect, and from the powerful bactericidal properties of sulphurous acid gas I should suggest its trial in cholera, enteric fever, pernicious anæmia, &c., and in such minor ailments as pyrosis and various forms of dyspepsia, and flatulent distension of the bowels, &c.

My experience of its use in diseases of the skin has been limited to its employment in two cases of scabies. One was that of a girl who had had the disease for three months before admission. It was a very severe case, and complicated with extensive eczema. I applied a 4 per cent. solution in olive oil and succeeded in curing the patient in fourteen days. In the other case a girl, from the same institution and admitted at the same time, who had been suffering for three weeks previously, a cure was effected in five days. She had but little eczema, which delayed the cure in the first case.

From the effects of the B. P. solution of sulphurous acid in parasitic diseases of the skin, I should think that an oily solution of Thiocamf would probably be of use in pityriasis versicolor, favus, and other dermatophytic affections.

Externally I first employed Thiocamf as an application to an extensive bedsore, measuring eight by six inches, situated over the sacral and gluteal regions of a woman who was sent into hospital with paraplegia and who had involuntary evacuation of urine and fæces. On admission the sore was covered with a gangrenous slough, and it emitted a most offensive odour. The application of the 4 per cent., subsequently increased to a 6 per cent., oily solution of Thiocamf quickly removed the fœtor, diminished the discharge, and

caused the sore, after the removal of the slough, to assume a clean, healthy appearance. It was healing rapidly, when the patient was attacked with erysipelas, to which she succumbed. I also used the 4 per cent. solution, and with rapidly good results, in the case of an old man with chronic bronchitis, who got two or three furuncles on the nates while in hospital.

With the permission of one of my colleagues, Thiocamf was tried as a dressing in the surgical wards, and by the acting House Surgeon, Mr. C. C. Deane, in the out-patient's room. This gentleman was good enough to give me the following note:—

“Thiocamf (four per cent. solution) was largely used in the dispensary for dressing ulcers and wounds. I found it very beneficial for keeping the parts free from fœtor and in checking the discharge.”

Mr. Deane has also favoured me with a detailed note of its use as an application to an irritable ulcer on the external malleolus of a male patient. On admission the ulcer was very painful, the surrounding parts were inflamed and œdematous, and the base of the ulcer was covered with a whitish slough, from which there was an offensive discharge. After two days' treatment by poulticing and rest the inflammation subsided, but the slough and offensive discharge remained. Thiocamf was then applied. The next day, the note states, the slough had completely separated, leaving the base of the ulcer clean and healthy, and now no fœtor. The ulcer filled up rapidly with healthy granulations, and eight days after commencing to use Thiocamf he was able to leave hospital.

A four per cent. solution of Thiocamf in olive oil applied to an ulcerated or abraded surface causes a slight sensation of heat and prickling, which rapidly passes away. If a stimulating effect is required, the strength of the solution can be increased as desired.

In addition to the medical and surgical uses of Thiocamf that I have suggested, its value as a powerful and effective but non-poisonous and non-corrosive disinfectant is great. “There is no other material I know of (says Prof. Emerson Reynolds<sup>a</sup>) save Thiocamf which can give off so large a relative volume of sulphur dioxide gas (the contents of a small six-ounce bottle can afford over 20,000 cubic centimetres, about 1,250 cubic inches) without any special treatment, save exposure in a very thin layer on an old tray or dish to the air of a room to be dis-

<sup>a</sup> *Loc. cit.*

infected.<sup>a</sup> Further, one ounce of Thiocamf shaken up with a quart of water forms a powerful disinfectant for ordinary purposes, such as sprinkling over various matters, purifying drains; &c.; while a still more dilute solution (one ounce to a gallon) can be used for soaking clothes which have been in contact with infected persons."

The residue of Thiocamf has a pleasant aromatic odour, and when rubbed to powder and well stirred with two gallons of water containing a little washing soda may be used with soap for washing floors, woodwork, clothes, &c.

A dilute solution of Thiocamf in spirit is supplied in bottles with sprinklers. This is the best and most convenient preparation I know of to deodorise fæces, and is largely used in my wards for that purpose. It also forms, in the proportion of a dessert-spoonful to a quart of water, an agreeable non-poisonous antiseptic liquid in which to rinse clothes, the hands, &c., in infectious cases.

ART. XVI.—*A Case of Myxœdema Successfully Treated by Injections of the Extract of Sheep's Thyroid.*<sup>b</sup> By WALLACE BEATTY, M.D., Senior Assistant Physician to the Adelaide Hospital.

CASE.—Mrs. M., aged fifty, was admitted into the Adelaide Hospital under my care on March 6th, 1890. She presented the symptoms of myxœdema well marked. Her face had a puffy swollen appearance; her eyelids were swollen; she had a circumscribed blush on both cheeks; the alæ nasi were thickened and the nose was broadened; her lips were thickened; the tongue seemed too large for her mouth and was protruded sluggishly; the mucous membrane of the oral cavity was pale and thickened; she had lost several teeth, and those which remained were loose and carious; her utterance was slow and thick; the thyroid gland could not be felt; there was a marked swelling above the clavicles in the inferior triangle of the neck; the hands were somewhat enlarged; she was clumsy in her movements; the extremities were inclined to be

<sup>a</sup> The method of disinfecting a room by means of Thiocamf is described in Dr. J. W. Moore's "Text-book of the Eruptive and Continued Fevers" (Dublin: Fannin & Co. 1892. Pages 34 and 35); and in a pamphlet issued by Messrs. Tyrer & Co., from which many of the particulars in the foregoing notes are derived, and which includes a reprint of Prof. Emerson Reynolds' paper previously referred to.—G. F. D.

<sup>b</sup> Read in the Section of Medicine of the Royal Academy of Medicine in Ireland, on Friday, April 14, 1893.

cold; she complained of chilliness and the temperature was subnormal; the bowels were constipated; the abdomen was distended and the skin of the abdomen was thickened; the skin on the front of the chest had a waxy swollen appearance; the skin of the back was shiny, dry, and desquamating, and the skin over many other parts of the body was dry and scaly; the axillæ were destitute of hairs; the heart sounds were feeble and the pulse slow; the urine was pale in colour, of low specific gravity; there was no albumen or sugar present, and no tube casts; her mental condition was dull and her memory was impaired. Her past history was as follows:—

Except for an attack of rheumatism twenty-four years before she was quite well until the climacteric period four years ago. She then noticed swelling in the abdomen and legs, and subsequently in the face and eyelids. She found by degrees that her hands were becoming clumsy, and that she had a difficulty in putting on her gloves. She felt a stiffness in the legs when walking. She noticed her mental condition becoming impaired; she felt dull and lacking in memory. Inquiry into her family history revealed nothing of importance.

I am indebted to Mr. Fullerton for keeping a careful record of the case.

During her stay in hospital—from March 6, 1890, to May 23, 1890—I tried the following remedies: arsenic, pilocarpin, iron, and strychnin; also a course of massage for some weeks. She left hospital *in statu quo antea*.

Having succeeded in removing the symptoms of myxædema in a lady whose case I recorded in the *British Medical Journal* of March 12, 1892, I readmitted Mrs. M. into the Adelaide Hospital in order to try the effect of hypodermic injections of the thyroid gland of the sheep. She was readmitted on February 23, 1892. Her symptoms were much the same as when she was in the Adelaide Hospital before, except that she was much more tottering in her gait, more dull mentally, and she complained of a greater loss of memory; her feet had become larger and more clumsy. The blood was specially examined; I found no increase in the number of white corpuscles; the red were reduced in number, 3,880,000 being the average number per cubic millimetre. Dr. Purser estimated the amount of colouring matter and found it 80 per cent. of the normal; thus, the number of corpuscles and the amount of colouring matter were reduced in about equal proportions, and so the condition of the blood was that of simple anæmia. The knee reflexes were completely absent.

Mr. Swanzy examined her eyes and ears, and reported as

follows:—"Eyes: The pupils are of medium size; they react sluggishly, and but little to light; the pupillary reaction on accommodation is prompt and sufficient, slight myopia, vision normal, colour vision normal, fields of vision normal, ophthalmoscopic appearances normal. Ears: In each the membrana tympani is normal. Left ear: Medium whisper 1-5 metres; watch in contact. Right ear: Medium whisper 1-5 metres; watch at one inch from the ear; tuning fork is heard from vertex in each ear, but better in the right ear; this state of functions shows some imperfections of hearing, due, I am of opinion, to defective function or actual disease of the labyrinth in each ear."

I began the injections of thyroid-gland extract on March 4, 1892, and gave the last injection on April 2, 1892. The patient was given, in all, the extract of about two glands.

The improvement which followed the injections was very marked and rapid. The general appearance of the patient improved rapidly, the temperature took a somewhat higher level, the amount of urea—before deficient—increased, the tongue became of natural size, the transverse measurement of its base when protruded its farthest was  $5\frac{1}{2}$  centimetres at the commencement of the treatment; after three injections, which were given within six days (and which corresponded to the entire extract of both lobes of one gland), its transverse measurement was  $4\frac{1}{2}$  centimetres. The improvement continued steadily, so that for some time before she left the hospital (July 6, 1892) she had quite lost the appearance of myxœdema. Unfortunately, two of my injections, the fourth and the ninth (last), were followed by suppuration. The first abscess healed in a few days after incision by my colleague Mr. Heuston, so that I was able to give the fifth injection fifteen days after the fourth; but the ninth (the last) injection, which was given in the left arm, was followed by phlegmonous erysipelas requiring free incision; after weeks of pain and discharge the arm recovered. I am indebted to Mr. Heuston for his help in the case. I gave the patient a few doses of the thyroid extract by the mouth before she left the hospital; I cannot say whether it was of benefit, as she had no symptoms of myxœdema when I commenced the administration of the extract by the mouth; I gave it to prevent a relapse.

She left the hospital promising to come and see me once or twice a week, but she never returned, and I have been unable to trace her whereabouts. She dreaded, I think, any further

treatment on account of the unfortunate occurrence of the abscesses.

It is interesting to note that after the fourth injection the knee reflexes, before absent, were present in a slight degree, and that the left pupil reacted to light, the right remaining as before. I had an opportunity of examining another case of myxœdema recently; in that case the knee reflexes were present and normal.

Some hours after each injection the patient complained of pain at the site of the injection, once of pain in the head, and several times of aching in the limbs. Very severe left intercostal neuralgia with exquisite tenderness of the nipple of the left breast preceded the formation of the first abscess, which formed within the left scapula at the seat of the injection which caused it. This neuralgic pain was probably due to the pressure of the abscess on the intercostal nerves behind.

I prepared the extract of the sheep's thyroid in exactly the same way and with the same care as in my first case. The amount of extract which I extracted from the two lobes of one thyroid was from fifty-five to sixty minims.

The extract was made according to the directions given by Dr. Murray, with one or two unimportant modifications. The method adopted was as follows:—The lobes of the thyroid gland of a sheep were removed immediately after it was killed, the instruments used having been rendered aseptic. The surrounding fat and connective tissue were removed from the lobes. Each lobe was cut up into small pieces on a glass dish, the glass dish having been previously washed with a 1 to 20 solution of carbolic acid. The pieces were put into two sterilised test-tubes, one for each gland, and over them was poured, in sufficient quantity to cover them, a solution containing a  $\frac{1}{2}$  per cent. solution of carbolic acid and glycerine in equal part. The test-tubes were left in a cool place for twenty-four hours. The contents were then strained through fine muslin into a glass-stoppered bottle, and the muslin squeezed so as to express as much liquid as possible; the muslin was previously placed for a few minutes in boiling distilled water, and the bottle was also previously disinfected.

It may be of interest to give the subsequent course of my first case of myxœdema—that recorded in the *British Medical Journal* of March 12, 1892.

The lady remained remarkably well from February, 1892, to May without any injection. She then began to feel a return of



the symptoms—viz., slight mental dulness, and some return of swelling of the eyelids. These symptoms disappeared at once after a few injections. She remained well for two months, when, owing to a threatened return of the symptoms of myxœdema, she was given in the end of July and beginning of August a few injections which were followed immediately, as before, by disappearance of the symptoms.

Some of the injections (given after the writing of my paper) were followed by alarming symptoms. A short epileptiform attack followed one injection; severe, indeed agonising, pain in the lumbar region followed two injections; this pain lasted only about two minutes. After another of the injections a weak feeling came on immediately, followed by agonising lumbar pain and rapid swelling of the upper lip, face, and eyelids; the swelling was very obvious within five minutes after the injection, and made the patient look markedly myxœdematous; the puffiness of the face subsided gradually in the course of about two days.

In the middle of August she went to the country for change. When I saw her next in October she was quite free from the symptoms of myxœdema, but complained of pain and swelling in her abdomen. I was distressed to find, on examination, a malignant tumour of the omentum. She died on February 28, 1893. The tumour had grown with extreme rapidity and caused her death.

Dr. J. K. Barton sent me an account of a case of myxœdema which has been recently under his care at Mentone. It was that of a lady, aged fifty-eight, who dated her earliest symptoms to a great sorrow three years previously. When she came under Dr. Barton's care in January, 1893, she presented all the symptoms of myxœdema. Dr. Barton gave her injections of the extract of sheep's thyroid gland. These injections were followed by a marked improvement in the lady's condition.

Dr. Barton sent me a report of his case, but unfortunately this report did not reach me in time for the Council meeting of the Medical Section last week, and so it was not put on the notice paper. It will, however, be found at page 431.

ART. XVII.—*A Fatal Case of Blood-poisoning after Extraction of a Molar Tooth.*<sup>a</sup> By JOHN J. BURGESS, F.R.C.S.; late Assistant-Surgeon to the Richmond Hospital.

ALTHOUGH the results of minor operations are so unvarying in their tendency to a favourable issue that we may predict with as much certainty as is possible for their future an entire absence of danger, yet cases, very few I am happy to say, occur now and then in practice in which the order of things is reversed, which, from insignificance, as far as peril to life is concerned at their onset, develop an extreme malignancy, and sometimes destroy life in individuals whose constitutions have hitherto been robust.

I deem it a duty to record a case of the latter class; its interest lies in this fact, that the pyæmic symptoms arose from what is a most exceptional cause, and its history brings to our minds that however trivial the injury be, if attended with an open wound, there is an element of danger which we should not lose sight of.

Hundreds of teeth are extracted every day, some with every accessory of modern dental skill to diminish the slightest risk; others by our residents in the various hospitals, when very often muscular power replaces science, yet the result is nearly always the same—a few days tenderness and swelling of the gums, a slightly foetid discharge for a week, and nothing remains except, perhaps, a feeling of gratitude to the operator. However, to show this rule has an exception, I shall claim your attention for a few minutes with the record of the following case:—

CASE.—On the 3rd November, 1885, a gentleman, aged twenty-seven, clerk in the Port and Docks Board, consulted me after suffering from what he supposed to be neuralgia from a decayed tooth. He had had the second molar tooth of the left lower jaw removed three days previously; there was no abscess at the fangs; the extraction was without difficulty; and temporary relief was experienced. At the time he suffered from great pain, which came on one day after the removal of the tooth; the seat of the pain was around the site of the extraction. The gum was swollen and brawny in the situation of the three lower back teeth on the affected side, with hardness outside corresponding. I advised him to go home and use hot fomentations, and called to see him the following day (4th Nov.). He was then in great pain, the swelling of his gum had increased, with the usual discharge of glairy mucus.

<sup>a</sup> Read in the Section of Medicine of the Royal Academy of Medicine in Ireland, Friday, April 14, 1893.

I freely incised the swelling both on the surface and deeply, with the result that there was free bleeding, but no pus. Two days afterwards (6th Nov.), when I next saw him, there was no abatement of the pain, and the swelling had spread to the submaxillary space. There was no feeling of fluctuation anywhere, so giving him opium to relieve the pain, I bid his wife continue the hot stupes.

The next day (7th Nov.) it was evident he had developed cellulitis on the left side, as the brawny swelling had extended forwards, indurating the fascia over the triangles of the neck. He would not consent to any incision being made except through his mouth, so having no other means of giving relief I drove a bistoury through the gum, along the maxillary ramus, into the tissues of the neck, avoiding, as well as I could, the facial artery. The bleeding was, at the time, rather alarming, but, as before, no relief was given. The cellulitis spread over the left side of the neck, with a moderate temperature, never exceeding 103° F.

As no surgical interference of the ordinary kind was permitted, and as incisions through the mouth gave great suffering but no relief, I had to satisfy myself with the ordinary sedative treatment, giving him as much nourishment as he would take. On the eighth day, before I saw him, he had a feeling as if "of being choked, followed by something giving way in his throat," after which he coughed up a quantity of pus; this gave him great relief, insomuch that when I saw him in the afternoon (15th Nov.) he stated that he felt nearly well. The cervical induration rapidly disappeared; his appetite and spirits returned, and, except for looking rather pale, he was nothing the worse for what he had gone through.

By my advice he was going to spend a few weeks with his parents near Dalkey, when, on the eve of his departure, about a week after the subsidence of the acute symptoms, I was sent for by telegram to see him before he undertook the change to the country. He had been perfectly well for the above time, but awakened that morning with a feeling of intense soreness of the throat. On examination he presented the common diffuse sore throat, with injection of the soft palate and tonsils, without marked enlargement of the latter. Accordingly I bid him stay where he was for a few days, and prescribed an astringent gargle.

On the following day I was rather surprised to find he had developed commencing facial erysipelas (18th Nov.). This, of course, negatived all thoughts of his removal. The facial erysipelas, as usual, continued for five days; without implicating the scalp it was very severe, and accompanied by what I find unusual, an almost continuous temperature of 105°. When the erysipelas declined, on the 22nd Nov., I was rather astonished to find the temperature had not decreased in any marked way, being still 103°.

The following day (23rd Nov.) it was still the same, with a rapid pulse; he complained of nothing except weakness, so failing to find

any other cause for the symptoms I then did what I neglected before, on account of nothing pointing that way—made an examination of his throat—and then, to my consternation, found it covered with a dry, whitish, yellow membrane, lying on the pharynx, base of tongue, soft palate, and tonsils. There was no cervical glandular enlargement, nor albuminuria; except for what I have before alluded to—the feeling of prostration—he was able to take nourishment well; his intellect was clear, and, considering his condition, he was rather cheerful.

As in my mind, at the time, there was no mistaking the then gravity of the case, I asked his people for the assistance of some other medical man, and, at their wish, my friend, Dr. Michael Boyd, joined me, and gave me his valuable assistance each day. We attended to his strength, by giving him eggs, milk, &c., keeping his throat sprayed with sulphurous acid, and the room well ventilated, at the same time cleaning twice daily the membrane from the palate and pharynx. There was at no time any glandular enlargement, nor albumen in his urine, but what appeared like membrane was seen at the anus.

On the ninth day (1st Dec.) the membrane began to show spots of healthy mucous tissue, and in the following days disappeared into bands which hung from the palate. About this time, when everything seemed to be going on well, the temperature keeping low in the day time, and going up to  $102^{\circ}$  at night, he had some rigors; these at first were followed by no symptoms of further mischief, but just when the throat had cleared we noticed there was hardness along the internal saphena vein in the left leg. This complication gave him some pain, and made him restless. However, the acute symptoms disappeared by the aid of hot poultices in a few days, although the vein still continued hard. We then thought there was an end to our labour, when we found the membrane had come back to its old position, and covered the palate and pharynx as previously it had done a fortnight ago. The temperature took the same range,  $103^{\circ}$ , with a half degree higher at night. The pulse averaged 120, rather weak. The membrane after a few days began again to peel off, but the temperature and pulse remained unchanged; rigors now became more frequent, generally two in the day, without sweating.

At this period there appeared spots of redness, which were immediately followed by collections of pus; these we at once aspirated, one at right shoulder; a second at the right forearm; a third corresponding to the tuberosity of the right ischium; a fourth above the left knee; and last one on the left leg, corresponding to the site of the previous phlebitis. After this there was a sudden amelioration of all the symptoms; the rigors ceased; the pulse showed down; the temperature was normal, except at night, when it ascended to  $100^{\circ}$ ; the appetite had increased, and, in short, everything seemed to point to a rapid recovery, when,

suddenly, we were again called to see the patient, about four days after giving up attendance, and found him in wild delirium, from which he sunk into deep coma, with Cheyne-Stokes' respiration. He died the following day from what was evidently secondary abscess at the base of the brain.

It is a curious fact that on looking over the literature bearing on this subject, of three fatal cases of a similar nature after the removal of a tooth it was the same tooth as in mine (the second left lower molar) which was extracted.

M. Bouyon, in the *Courier Médical*, 1873, mentioned the case which came under his notice of a countryman who had this tooth removed by a blacksmith. The man developed periostitis, and died of septic infection in a very short time.

Zahharvich had two cases of perfectly healthy medical men from whom this tooth was removed, both of whom died from ostitis and osteomyelitis, one on the sixth, the other on the tenth day.

Goodhart, of Guy's Hospital, records a case of fatal pyæmia from a non-extracted tooth, the abscess involving the inferior dental canal; the pus passing thence to the articulation filled the sphero-maxillary fossa, and was followed by intercranial suppuration.

In addition to these, and bearing on the subject, is the case of Mr. Baker, of our city, whose patient developed pyæmia from abscess in an upper molar tooth which was not extracted, followed by secondary abscesses over the body, but which he succeeded in bringing to a favourable termination.<sup>a</sup>

M. Foucet, at the Surgical Society of Paris, 1886, brought forward a case of an alcoholic who died of pyæmia following a hard swelling at the angle of the jaw due to a bad tooth.

I do not propose to dwell on the treatment more than to say I believe the impossibility of making incisions in the cellulitis stage beyond prolonging it for a few days did no harm, as he was a week free from suffering—i.e., from the bursting of the abscess into the œsophagus until the invasion of the crysipelas.

<sup>a</sup> With the assistance of Mr. Baker, to whom I am deeply indebted for the assistance he gave me in writing this paper, we found recorded thirteen cases of a fatal termination—ten in addition to the above. Of the latter, one died of tetanus, one of hæmorrhage, six of meningitis from pyæmia, and two to exhaustion from blood-poisoning without cerebral symptoms. The record of these cases is very interesting, and is to be found in Professor Müller's (Berlin) book.

The treatment of the erysipelas deserves no mention except as regards the high temperature of 105°. For this no antipyretics were used, because from my experience no drug has any power more than, I may say, momentary to keep down an essential temperature; and the one thing which I believe does good—the cold bath—was not tried for obvious reasons.

In the membranous stage the usual course was adopted, giving internally plenty of stimulants.

I may add, the fatal issue was not precipitated by movement, as the patient was allowed merely to be lifted out of bed into an easy chair when considered convalescent.

I now come to what is a subject of greater interest—the membranous exudation which came on in this case when matters began to look bad for the first time.

I purposely refrain from using the word diphtheritic, for reasons I will explain.

Both before this case and on many an occasion since, I have seen this same condition of throat varying in intensity—in milder cases from an exudation like clotted milk, which readily peels off, leaving an unabraded surface, to a condition in which the membrane (of a yellowish white colour, resembling in its consistence parchment) can only be detached with difficulty, leaving a bleeding surface at its site. In the former class of cases the tongue is generally moist, in the latter always dry and attended by profound adynamia. In neither is there albuminuria nor glandular enlargement about the neck.

This is a state of affairs which I find many men call by the misleading name of diphtheritic throat, having no analogy to true diphtheria but in the fatality which attends too many cases in which it is a symptom due, not to the pernicious influence of a spreading membrane, but to some antecedent cause still in progression of which it is merely a symptom. It has these characters which distinguish it from the disease of Bretonneau:—

1. It is non-contagious.
2. It has no tendency to laryngeal or nasal implication.
3. It is always secondary, requiring for its development some acute disease, such as enteric fever or erysipelas.

From my own experience I believe a period comes on in protracted acute disease, whether it be pneumonia, pleuritis, or fever, when we may look for the sign which is a danger signal beginning to develop in the soft palate and pharynx; and its significance

seems to me to point to this—the patient's strength, which has withstood the shock up to the present, is now rapidly failing, and, unless supported by a stimulant line of treatment, an unfavourable termination is imminent.

I am aware this throat is well known to us all, but I simply wish to draw attention to it, because we so often hear of the diphtheritic affections. Now, diphtheria, I am happy to say, if we exclude croup, which has very little in common with it, is a disease we do not see much of. Sporadic cases are mentioned from time to time which may occur to several individuals in a badly-drained house and be very fatal, but which are non-communicable to outsiders visiting them, differing in this absence of contagion, and with extension of the disease to the nasal fossæ or larynx from the true disease, and bearing a greater analogy to malignant typhoid than to diphtheria.

I consider the word diphtheria or diphtheritic, which I presume means the same, except in its pathological sense, to be used too indiscriminately from the ordinary sore throat so common to numbers of people in the spring to the secondary remote effects of a blood poison, and I believe that the disease diphtherite, as described by Storr, Bretonneau, Trousseau, and Empis, does not exist in our city, but, like several epidemics of ages gone by, it has succumbed to the advance of modern hygienic science. I am conscious many will say that cases such as I have described are totally distinct from true diphtherite as to the membrane; but, excluding the aphthous throat of late phthisis, I submit the membrane in the above is identical in appearance, and an observer like Silas Cohn practically includes them in his description of diphtheria when he says—"Membranous throats are often followed by paralysis similar to the true disease, and fatal by membranous laryngitis."

Let me not be misunderstood as denying the existence of diphtheria. My object simply has been to draw attention to cases for a scientific motive which too often get the above name, without any further claim than a membrane existing on the palate, to a disease which has ravaged Europe in past times.

It may be suggested that an easy solution to the difficulty of diagnosis would be the discovery or not of the Klebs-Löffler bacillus by microscopic examination of the membrane. Even if it were definitely fixed that this organism was the cause of diphtheria, there still remains the possibility that its existence in the air we breathe might determine its presence in any throat, like the case

mentioned by Oertel in which he found these microbes in abundance on a membranous throat, due to the irritation of strong ammonia. Again, we have the statement of Lennox Brown that they are frequently found on perfectly healthy throats before their destruction by the scavenging action of the white corpuscles. Under these circumstances its discovery would be in no way conclusive, so I eliminated it as a means of determining the difference from a specific and a non-specific cause.

In conclusion. I confess this paper has been written with a certain amount of reluctance, as I know it is more usual, I am happy to say, to record before the Section our successes than our failures; but I submit, even from a description of this disastrous case, there are many things to be learned, the least of which perhaps is not to underrate the future gravity of a case as I did in this instance from an apparently unimportant beginning.

ART. XVIII—*On the Removal of the Gravid Uterus by Abdominal Section.*<sup>a</sup> By THOMAS MORE MADDEN, M.D., F.R.C.S. Ed.; Obstetric Physician and Gynæcologist, Mater Misericordiæ Hospital, Dublin.

IN a former volume of the Transactions of this Academy I reported a case in which I had been obliged to remove the gravid uterus. In the present communication I desire to submit the notes of a recent case of the same kind, and to offer some general observations on such operations.

In the last case referred to, in which I was compelled to perform a Porro-Müller's operation, the patient was a woman, aged thirty-three, two months pregnant, and of well-marked carcinomatous cachexia, suffering from a fast-growing uterine tumour, which, from the intense suffering it occasioned, the rapidity of growth (it having so developed from the time it was first recognised, only three months previously, so as to fill the abdominal cavity, and cause such dyspnoea as to prevent her sleeping save in a sitting position), as well as from the extreme emaciation and characteristic cachexia, I diagnosticated as probably malignant. The symptoms being most urgent, and the patient being apparently *in extremis*, it was decided as a forlorn hope to give her whatever

<sup>a</sup> Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland on Friday, April 21, 1893.



chance the removal of the uterus might afford. From the time of her being brought into hospital until she was placed on the operating table the patient was in a condition of extreme prostration from loss of rest, continual pain, and inability to take food, and was apparently kept alive by the free administration of stimulants. In that operation, which was performed on April 13th, 1893, I had the able assistance of my colleagues, Drs. Lentaigne and Coppinger, and also of Dr. A. Smith, of St. Vincent's Hospital. The enormous tumour here shown [tumour exhibited] growing from the fundus was partially gangrenous, and owing to extensive adhesions there was considerable difficulty in its removal and in the ligation of the ligaments. The operation was therefore necessarily prolonged; and though she recovered from the immediate shock, and for a couple of days gave hope of recovery, her condition of extreme prostration was never completely recovered from, and she succumbed at the end of a few days.

I am indebted to my colleague, Professor M'Weeney, for the following brief note of the pathology of the growth:—

"The tumour, which was of enormous size, grew from the fundus uteri, and consisted of two parts. The apical portion—*i.e.*, that furthest removed from the uterus—was in a state of sloughy degeneration, and had softened down so as to form a sort of cyst, the wall of which was composed of discoloured and unhealthy peritoneum. This portion passed gradually, and without any definite line of demarcation, into the proximal or basal portion of the growth. The latter consisted essentially of unstriped muscular fibre and connective tissue, associated in varying portions. The most deeply-situated portion had undergone mucoid degeneration, so that the middle of the tumour was channelled with numerous inter-communicating cavities, filled with glairy fluid. Hence the growth may be regarded as a monstrous, non-pedunculated fibroid."

The excision by abdominal section of the gravid uterus, above the cervix, which is generally known by the name of the operator, Professor Porro, of Pavia, by whom it was first successfully accomplished in 1879, though previously performed by Dr. H. Storer, of Boston, was originally designed as an obstetric operation in lieu of the Cæsarean section. It has been subsequently considerably modified and improved in its technique by Freund, of Breslau, and Müller, of Berne, to whose operation, with some further modifications, I have myself resorted in three cases of pregnancy

complicated by urgent symptoms arising from malignant, or supposed malignant, disease of the fundus or body of the uterus.

Premising that the Müller-Porro operation consists essentially in making a large abdominal wound, with the view of excising the gravid uterus and securing the cervix by *serre nœud*, ligature, clamp, or otherwise, previous to opening the cavity and removing the child, I may now describe the steps of this operation as adopted in the method followed by myself in the cases referred to. The preliminary measures—directions concerning arrangement of operating room, position of patient, choice of anæsthetics, and antiseptic precautions necessary in a case of abdominal hysterectomy—being identical with those in ovariectomy, need not be here detailed. Taking it for granted, therefore, that these preliminaries have been properly carried out, and that the patient about to undergo removal of the uterus has been fully anæsthetised, and placed in proper position on the operating table, the first step in the operation, after the bladder has been emptied by the catheter, is the incision through the abdominal parietes, by which the peritoneal cavity is to be laid open and the uterine tumour exposed. This incision along the linea alba from an inch below the umbilicus to an inch above the pubes, differs from that generally necessary in ovariectomy in being necessarily of much greater length, so as to facilitate that free intra-peritoneal manipulation by which, in hysterectomy, the uterus is to be liberated from adhesions, and the broad ligaments ligated and divided.

2nd. As soon as the uterus has been thus brought into view any morbid adhesions to the bladder or other viscera are to be cautiously, and if possible, manually broken through, and any bleeding points or thick bands of adhesion so broken securely ligatured.

3rd. The uterus is now to be drawn upwards and forwards, so as to put the broad ligament and cervix somewhat on the stretch.

4th. The broad ligaments are then to be seriatim transfixed by a blunt pedicle needle armed with double strong silk sutures, by which the ligaments should be firmly ligatured in two or three divisions. Immediately below these another stout ligature should be encircled around each ligament. These latter ligatures must then be confided to an assistant, by whom, before the closure of the abdominal wound, the remaining portion of undivided broad ligaments should be again drawn into view, prior to the sutures being cut to ensure that the included vessels are effectually closed. The same object may also be accomplished by the use of either

Reeves' hysterectomy forceps, Storer's clamp shield, or Wells' compressing pedicle forceps.

5th. The broad ligaments may now be divided above the sutures by a scissors on each side of the uterus, which, together with the included ovaries and Fallopian tubes, now remains attached only by the cervix.

6th. The cervix may now be included either in a *serve nœud* or a hysterectomy clamp forceps, sufficiently low down to allow its transfixion, partly by a blunt-pointed pedicle needle armed with double stout wire or carbolised silk suture, so strong as to allow of that force, by which the ligatures can be so tightened as to obviate slipping and consequent hæmorrhage from the subsequent retraction of the undivided tissues. In this way the cervix must be ligated in two portions. Below these ligatures two transfixion pins should be passed at right angles through the cervix, and below these again it should be tightly encircled by a stout silk or carbolised whip-cord ligature.

7th. Above all these ligatures, the uterine cervical zone is now to be slowly divided by a strong, round-pointed scissors and removed.

8th. The cervical stump or pedicle may then be treated either by searing it with thermo-cautery, as in my last case, or, as in my previous ones, closed by the flap operation and covering it with peritoneum by fine silk or gut sutures. The clamp forceps can now be relaxed, and, if there be no hæmorrhage, the cervical stump should be secured either by the transfixion pins or by clamp in the lower angle of the abdominal incision, where, after the closure of the upper part of the wound, having been freely dusted with iodoform, it must remain to be treated extra-peritoneally.

9th. The abdominal cavity is then to be flushed out with warm boric solution, after which, the sponges and forceps having been carefully counted to prevent risk of any being left behind, and the ligatures having been also looked to, the abdominal wound may be closed and dressed as in an ovariectomy, except in one respect—that is to say, in Porro's operation the lower angle of the wound must remain unclosed to allow space for a drainage-tube, as well as for the cervical pedicle, which must, as I have said, be treated by the extra-peritoneal method. This is conceded by the great majority of authorities, although my friend Dr. Mc'Ardle, himself a successful operator, in such cases still rather favours the extra-peritoneal method in this operation as in ovariectomy. One of the

many differences, however, between these procedures is the extreme difficulty generally experienced in preventing hæmorrhage from the pedicle in the former, and hence the advantage of having the cervix in view after Porro's operation in case any such hæmorrhage should occur.

It is needless to add that during and after no operation is unremitting attention to perfect asepsis, and to all antiseptic precautions, more essential than in that which I have now described my method of performing.

This operation differs, as will be seen, in several respects from Müller's modification of Porro's operation. It is still more distinct from Freund's operation for the extirpation of the non-gravid uterus, with which, as an examiner, I have found the latter procedure is not unfrequently confounded. To illustrate clearly that distinction I shall, therefore, here briefly describe Freund's operation as performed in a case under my observation. In Freund's method of hysterectomy, the abdominal cavity having been laid open, as in ovariectomy, the broad ligaments are transfixed and ligatured in two or three portions on either side, so as to secure above the sutures the Fallopian tubes and ovaries, and to seal the ovarian and uterine vessels, the lower ligature being brought out into the vagina. The uterus is now cut away from its vaginal and ligamentous connections and withdrawn through the abdominal wound, which is subsequently closed, as in ovariectomy; whilst the ends of the remaining ligatures in the broad ligaments are brought down into the vagina, about which the anterior and posterior layers of pelvic peritoneum are previously brought together by silk or gut sutures, so as to close the peritoneal cavity, a drainage-tube being then left in the vaginal wound. My own opinion and very limited experience of Freund's method of abdominal hysterectomy is similar to that of many other surgeons, by whom some years ago it was more largely resorted to, and by most of whom (although more facile than vaginal hysterectomy, and possibly capable of some future improvement), owing to its terribly unsuccessful results—the consequent mortality being over 70 per cent.—it has been generally abandoned.

On the other hand, the mortality of Porro's operation under the most favourable circumstances that is in obstetrics where the condition of the uterus is presumably a normal one, according to Sir Spencer Wells, is 56 per cent. of the mothers so operated on; hence the results in my cases of removal of uterus for such disease

as existed in all these cases—namely, two deaths and one recovery, being a mortality rate of 66·6 per cent., considerably less than that of Freund's operation—are by no means exceptionally unfavourable when we consider the circumstances of these cases and the condition of the patients so operated on, as the last possible chance of relieving suffering and prolonging life in cases apparently otherwise beyond hope. At the same time I must add that I think it only justifiable to perform such operations, as was the case in the three instances above referred to, in compliance, as a *dernier ressort*, with the entreaty of a patient fully aware of all the risk of the procedure and beyond other methods of relief.

Finally, in this connection it may be added, that in obstetric practice, for which primarily designed as a substitute for Cæsarean section, there can be no ground now-a-days for recourse to either Porro's operation, or any of its subsequent modifications. Inasmuch as within the last few years, owing mainly to the improvements in the technique, and consequently in the results, of the oldest of all intra-peritoneal operations, effected by Professor Säger, of Leipzig, and also, and above all others, by Professor Murdoch Cameron, of Glasgow, the Cæsarean section (my first case of which was reported in my chapter on this subject in "The Dublin Practice of Midwifery," published twenty-one years ago) has been robbed of its former terrors. No triumph of modern abdominal surgery has probably been equal to that which has taken place in the performance of this operation by the method of Cameron, by whom the Cæsarean section has been accomplished in 20 cases with only two deaths, being a mortality hardly greater than that generally obtained in ordinary ovariectomy. With that method thus available, and with the exceptional experience of Cameron to guide us, it is, I think, therefore evident that we should no longer be justified in obstetric practice, in resorting, whether by Müller-Porro, or any other method, to an operation so terribly fatal as the removal of the gravid uterus has always proved, and must always remain.

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#### PNEUMOTOMY TWICE IN THE SAME PATIENT.

J. B. WHITE, M.D., reports (*Medical News*, Philadelphia, 14 January, 1893) a case in which he twice practised pneumotomy (at an interval of two months) for the relief of tuberculous abscess and gangrene of the lung. Two years have passed since the last operation, and the patient is in perfect health.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*Archives des Sciences Biologiques, Publiées par l'Institut Impérial de Médecine Expérimentale à St. Pétersbourg. Tome I., No. 4. 1892.*

THIS number of these valuable archives contains four papers.

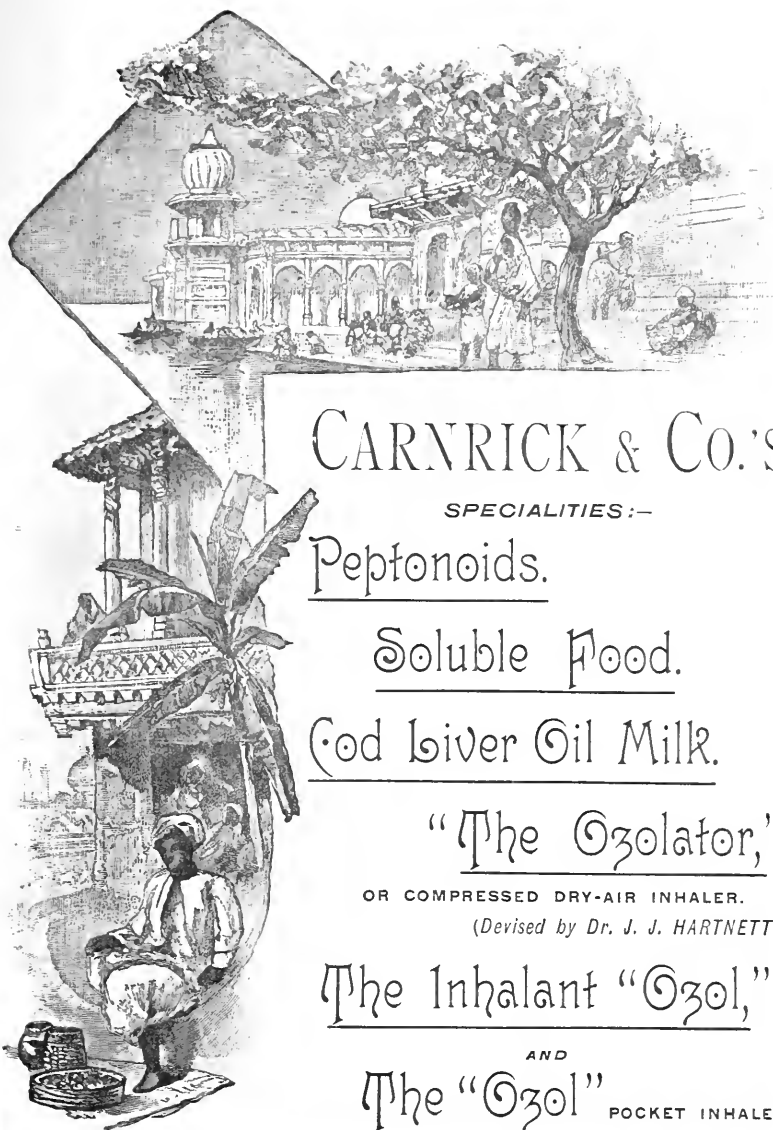
The first is on the so-called "Fistula of Eck," or a communication artificially established between the vena portæ and vena cava, by which the blood of the former vessel reaches the general circulation without passing through the liver. The research is a collective one—the physiological part by Massen and Pawlow, the pathologico-anatomical part (not yet completed) by Ouskow, and the chemical part by Hahn and Nencki.

In the experiments dogs were employed. The operation, one of extreme delicacy and difficulty, is minutely described. Of about 60 dogs operated on one-third survived and served for observation.

Of the phenomena which followed the operation the most remarkable were those manifested by the nervous system. The animal becomes vicious, ill-tempered, and excitable. Restlessness alternates with somnolency and feebleness. A peculiar condition of ataxy develops, accompanied by blindness and loss of the feeling of pain, while consciousness and hearing remain. The animal comes when called, or runs away if the door be suddenly opened, but cannot avoid obstacles, and is not apparently incommoded by a needle plunged deeply into his nose or lip. This condition is followed by convulsions and coma, in which death takes place or which may be recovered from.

It was observed that there was a connection between the feeding of the animals and the intensity of the nervous attacks. Those who ate very little, all suffered sooner or later from violent attacks of convulsions and died, while those who only occasionally ate badly and did not emaciate, had less violent attacks, commencing with somnolence and terminating by fury and agitation. It was further found that a meat diet was most injurious, invariably

causing serious derangement of the nervous system, often termi-



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hours. The ammonia increases rapidly as soon as the first morbid

## Carnrick's Peptonoids in Diarrhœa.

IN the *Indian Medical Gazette* of last May was a very striking article by Surgeon Lieut.-Col. A. Crombie, M.D., on the treatment of Hill Diarrhœa. We need not discuss the local conditions, which appear to be the efficient factor in the production of this type of diarrhœa, nor cite the cases which Dr. Crombie describes in illustration and support of his method of treatment; it is sufficient for our purpose to reproduce his conclusions, because of their bearing on our products, and because we think his views as to the causation of hill diarrhœa are true of many cases of a more general type.

These, then, are the results of Dr. Crombie's experience:

"I am convinced that not only the function of the liver is "in abeyance, but also that of the stomach pancreas and the "intestinal canal, and that the disease is not a true diarrhœa, "but an indigestion due to an imperfect secretion of the digestive "ferments generally, including that of the bowel."

Apart from the treatment that consists in sending the patient to a lower level, the other line of treatment consists "in supplying "the deficiency in the natural gastric and intestinal ferments, as "well as in the administration of intestinal antiseptics to check "the abnormal fermentation which the absence of the bile and "other secretions permits in the small intestine," and Dr. Crombie bears witness to the great value of pepsine in this connexion.

further found that a meat diet was most injurious, invariably



causing serious derangement of the nervous system, often termi-

Accepting these views, which are borne out by a successful treatment of diarrhoea patients, the especial appropriateness of CARNRICK'S PEPTONIDS is manifest.

I. Stimulation  
of the Digestive  
Functions

is secured by the administration of CARNRICK'S LIQUID PEPTONIDS. This preparation possesses undoubted Peptogenic power, and, by its stimulation of the peptic glands and formation of gastric juice, promotes the digestion of food and meets the case of diarrhoea resulting from indigestion.

II. Aseptic  
Condition.

In view of the septic fermentation that is going on, it is highly important to administer only such foods that will not aggravate this condition. CARNRICK'S LIQUID PEPTONIDS thoroughly corresponds to this requirement. The powdered Beef Peptonoids, from which LIQUID PEPTONIDS is prepared, is thoroughly sterilised during process of manufacture, and stored in hermetically sealed cans. This aseptic condition is maintained in LIQUID PEPTONIDS by the addition of a small quantity of alcohol, which preserves it from any deterioration. This characteristic of LIQUID PEPTONIDS will certainly secure it appreciation in tropical climates, where the unreliable condition of preparations of the digestive ferments is too well known.

III. Milk Foods.

LIQUID PEPTONIDS is certainly indicated in preference to milk foods in all conditions of intestinal sepsis. The entire discontinuance of milk in cases of gastro-intestinal trouble is now advised on account of the fermentative changes resulting from its administration. The administration of milk foods in these cases frequently aggravates the disease, by adding a mass of fermenting material to the gastro-intestinal canal which it cannot dispose of. In place of milk is recommended the use of barley-water with the addition of half a teaspoonful or more of "LIQUID PEPTONIDS." This has been found of especial service in infantile diarrhoea.

hours. The ammonia increases rapidly as soon as the first morbid

## CARNRICK'S LIQUID PEPTONIDS

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BECAUSE IT IS

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- (II.) Predigested. CARNRICK'S LIQUID PEPTONIDS, being predigested, imposes no effort upon the digestive organs.
- (III.) Aseptic. The BEEF PEPTONIDS POWDER having been thoroughly sterilised, CARNRICK'S LIQUID PEPTONIDS is in a perfectly aseptic condition.
- (IV.) Palatable. CARNRICK'S LIQUID PEPTONIDS is extremely palatable, it being generally compared by patients to a delicate liqueur or cordial. Consequently it can be exhibited without repugnance on the part of patients, is readily taken by young children, and thus the full benefit of a regular administration is obtained.
- (V.) Stimulating. CARNRICK'S LIQUID PEPTONIDS possesses mildly stimulating properties, which fit it for use in conditions of debility and prostration.

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further found that a meat diet was most injurious, invariably

causing serious derangement of the nervous system, often terminating in death.

The reason why some animals recovered was found in the re-establishment of a circulation through the liver from the intestines by means of adhesions between the former and the mesentery, omentum, and intestines. The collateral circulation through these adhesions was more readily established when the fistula between the vena cava and the vena portæ was of small size.

As to the cause of the nervous symptoms, it is probable that they were due to poisoning by carbamic acid. This acid was found in the urine often in considerable quantity. Injections of carbamate of sodium into the vessels of dogs produced a group of symptoms closely resembling those seen in the dogs with fistula—namely, somnolence with ataxy, excitement with ataxy and blindness, catalepsy with anæsthesia, epilepsy and tetanus.

Introduction of carbamate into the stomach of normal dogs was without effect; but when introduced into the stomach of dogs with fistula the results were the same as when meat was eaten, except that convulsions did not occur, probably because the dose was too small. It would, therefore, appear probable that in the liver carbamate undergoes a transformation into a harmless substance, and an important function of the liver is to produce this transformation of the carbamate normally formed in the body. Finally, the authors call attention to the similarity between the symptoms manifested by the dogs and those seen in men suffering from so-called uræmia, and suggest that the uræmic symptoms may be due to poisoning by carbamic acid.

In the chemical part of the research it was found that the urea of the urine was not much diminished by the establishment of the fistula, but that if in addition the hepatic artery was ligatured, or a great part of the liver removed, the urea underwent a considerable diminution.

The uric acid was greatly increased, particularly when the symptoms of intoxication showed themselves.

The operation of Eck, combined with ligature of the hepatic artery, causes an increased elimination of ammonia. In some cases this increase is only relative to the nitrogen of the urea and to the total nitrogen, while in other cases it is absolute—this occurs when the animals survive the operation for at least twenty hours. The ammonia increases rapidly as soon as the first morbid

symptoms appear. The question then arose in what form is the ammonia eliminated.

Carbamate of ammonia has been found in the blood of the dog, and in the urine of the horse, but its presence in the urine of the dog or man is denied. The authors, however, find that it is frequently present in the urine of normal dogs and men. In the dogs with fistula, however, carbamic acid is found in the urine in much greater quantity.

It seems certain that carbamic acid plays an important part not only in the fistula dogs but in the symptoms of diseases of the liver, such as acute yellow atrophy and phosphorus poisoning, and it is probable that the large proportion of ammonia found by Hallervorden in the urine of diabetics and in interstitial hepatitis is due to the presence of carbamic acid. It is the function of the liver to convert this carbamic acid into urea. The carbamic acid is formed wherever the oxidation of nitrogenous organic substances takes place in an alkaline medium—these conditions are found in the tissues. The portal vein carries carbamic acid to the liver only in so far as it receives the blood of the spleen, of the pancreas and of the glands of the intestinal mucous membrane. These glands are the seat of active phenomena of transformation and oxidation during the process of digestion.

The second paper is by Dr. Zumft, on "The Putrefactive Process in the Human Large Intestine and on the Micro-organisms which Cause it."

Nencki has shown that, normally, the putrefaction of proteid substances is effected only in the large intestine, and that putrefaction is much more active when caused by a mixture of organisms than when brought about by a pure culture. Zumft, then, proposes the question, What would be the decomposition of albuminoid substances caused by the mixture of microbes inhabiting the human large intestine carried out *in vitro*, but imitating as much as possible the natural conditions?

Sterilised infusion of meat was inoculated with human faeces; the air was expelled by carbonic acid, and the whole kept at the temperature of the body. The putrefaction took place much more slowly than when carried on in the presence of the air. After 3-5 days only 20-25 per cent. of the meat was decomposed. Therefore this fermentation can play only a small part in the process of digestion compared to that taken by the gastric and pancreatic secretions.

Among the bacteria one, not hitherto described, was isolated which produced the same products of decomposition as those got with the mixture of organisms.

For further details of great interest, we must refer to the original paper.

The third paper, by Dr. Louis de Rekowski, is on "The Micro-organisms found in the Organs of Persons who have died of Cholera."

Pieces, as large as a nut, of the different organs were taken with antiseptic precautions, and planted in the culture media.

It was found that in the intestine at least twelve different organisms could be detected; when these were grown on bouillon, their number was greatly diminished, and when, from the bouillon, cultures were made on gelatine, only three or four different kinds grew. This is due to the difficulty with which many of the intestinal bacteria grow in presence of free oxygen, and to the struggle for existence among them and the consequent survival only of the fittest for the new mode of life.

It has been stated that in cholera the specific organism is found only in the intestine, and that it is the absorption of its toxin to which the symptoms are due. Rekowski, however, has found this not to be the case, but has met with both the cholera vibrio and other bacteria in most organs examined—as brain, blood, liver, spleen, kidneys, muscles, &c. It is shown that this cannot be a *post-mortem* wandering of these organisms. The severe symptoms of the algide stage and of cholera typhoid depend, probably, on the penetration into the organs not only of the cholera organism but also of the others which were found.

It is not, however, denied that the symptoms of cholera can be produced by the toxin of the comma bacillus. Attention is drawn to the fact, that in order that the cholera bacillus shall exert its pathogenic action it must find in the living organism a favourable medium for its development. The healthy human body is not such a medium. Nearly all the bodies examined, which belonged to the poorer classes, were enfeebled by previous disease. It is probable that the puerperal condition in women, and such diseases as nephritis, dilatation of the stomach, cirrhosis of the liver and gastritis, are strong predisposing causes of cholera.

In the fourth paper Jakowski details the results of the "Chemical Examination of Two Cases of Intestinal Fistula in Human Subjects." One was situated almost certainly in the ascending

colon, the other in the lower part of the small intestine. The latter had lasted thirty-five years, and yet the health and strength were well maintained, although the large intestine did not act on the food.

The important researches of Nencki, Sieber and Macfadyen, have shown that the putrefactive processes in the small and large intestines are different; the former affecting chiefly the carbohydrates, the latter the proteids.

The matters collected from the fistula in the large intestine were alkaline or neutral; their density varied from 1016-1034. They consisted on an average of 93·73 per cent. water and 6·27 per cent. solids, of which 86·03 per cent. was organic, 13·97 per cent. inorganic. From 2-3 per cent. of proteids, some sugar, peptones, urobiline were present in small quantity, but traces only of bile acids.

Carbonic acid, sulphuretted hydrogen, methylmercaptan scatol, aromatic oxyacids and phenol were found in the distillate. Ethylic and butylic alcohols were found, even when the patient received no alcohol with food; fatty acids, probably caproic and valerianic acids. Succinic acid was present in the residue, leucin (but no tyrosin), ammonia and pentamethyldiamine (cadaverin).

Eight organisms were isolated, of these two could not be cultivated; the characters and actions of the others are minutely described. Among them are the (1) *Bacillus liquefaciens ilei* of Nencki, Sieber and Macfadyen. The (2) *Bacillus pyocyaneus* of Gessard; this has been found to decompose sterilised meat with production of sulphuretted hydrogen, methylmercaptan, scatol, aromatic oxyacids, volatile fatty acids, &c. (3) Small cocci corresponding to *Streptococcus coli gracilis* of Eschrich; these also decompose meat, forming the above products. (4) *Bacterium aerogenes* of Miller. (5) An undescribed coccus, *Diplococcus albus intestinorum*. (6) Vibrios. (7) A chromogenic coccus not hitherto described, *Staphylococcus rosaceus*. (8) Torulæ.

The second case, in which the fistula was situated in the small intestine, yielded always an acid matter, the acidity was due not to hydrochloric but to organic acids, chiefly acetic acid; the density was 1019. There was 9·75 per cent. of solids, 90·25 per cent. water. Of the dry matter 90·05 per cent. organic, 9·95 per cent. ash. The proteids amounted to 3·44 per cent. of the fresh matter. The sugar varied from 2·32 to 1·65 per cent. Peptones

were twice found—biliary pigments, urobilin, and traces of bile acid.

On analysis were found carbonic acid, traces of sulphuretted hydrogen, no methylmercaptan. Aromatic oxyacids, ethylic alcohol, volatile fatty acids were present, but no phenol, indol or scatol.

In the residue, succinic acid, and small quantities of lactic acid were found, but neither leucin nor tyrosin.

Six kinds of bacteria and yeast were isolated. Among these were *B. Bischleri*, *Streptococcus liquefaciens ilei*, *Diplococcus albus intestinorum*, *Bacillus liquefaciens ilei*, and *Bacillus pyocyaneus*.

These observations confirm the results of Nencki, Sieber, and Macfadyen, that the decomposition of carbohydrates takes place in the small intestine, and that proteids are there decomposed, if at all, only to a very slight degree; while the large intestine is the place of hydration (leucine) and of the definite decomposition of proteid matter, and, besides, of the decomposition of bile pigments and of the reduction of bilirubin into urobilin.

Another very interesting point is the confirmation of the discovery that alcohol can be formed in the intestine from carbohydrates. This takes place chiefly in the small intestine, and is due to the action of *Bact. coli commune*, *Bact. Bischleri*, *Bact. ilei Freyi*, and *Bact. lactis aerogenes*, besides that of yeast.

Our knowledge of the bacteriology of the intestine is much advanced by these researches.

Further, the way is opened, by following which a more complete acquaintance with the processes taking place in the intestines may be got than is possible by any other means.

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*The Johns Hopkins Hospital Reports.—Report in Pathology II.*  
Baltimore: The Johns Hopkins Press. 1892. Pp. 152.

THIS part of the Reports contains two very valuable papers, both by Dr. J. Whitridge Williams.

The first is on "Papillomatous Tumours of the Ovary." The following are the conclusions as given by the author:—

"1. Most papillomatous cystomata are not developed within the broad ligament; the majority of intra-ligamentous papillomatous growths being of other than ovarian origin.

"2. These growths are derived either from the Graafian follicle or germinal epithelium; their origin from relics of the Wolfian body or from the tubal epithelium, while possible, has yet to be demonstrated.

"3. As the origin of both the ciliated and non-ciliated papillomatous growths is identical, we consider that there is no justification for considering them as constituting two distinct classes of growths.

"4. Polymorphism of the epithelium is not characteristic of ciliated papillomatous growths.

"5. The formation of psammoma bodies is not pathognomonic of the ciliated papillomatous cystomata, for they occur in the superficial and non-ciliated varieties, and also in the normal ovary and tube, as well as in other parts of the body.

"6. The superficial papillomata are of far more frequent occurrence than is generally supposed.

"7. They are very closely related to the papillomatous cystomata and are always derived from the germinal epithelium.

"8. All varieties of papillomatous growths of the ovary have a marked tendency toward the formation of secondary growths. The majority of secondary growths are produced by mere extension of the growth by continuity of tissue or by implantation of small particles of the tumour upon the peritoneum. In rare instances, true metastases may be formed.

"9. The papillomatous tumours possess a marked tendency to become malignant, and even the anatomically benign growths, in view of their tendency to the formation of secondary growths, are to be considered as clinically malignant.

"10. The results of operations, even after the formation of secondary growths upon the peritoneum, are quite satisfactory."

The details of seventeen cases, from an examination of which the account of the tumours is drawn, together with a very complete bibliography of the subject are appended to the paper, which is illustrated by two well-executed plates.

The second paper is on "Tuberculosis of the Female Generative organs.

The following are the author's conclusions:—

"1. Genital tuberculosis may occur at any age from 10 weeks to 83 years, but usually between the 20th and 40th years.

"2. It is usually secondary to tuberculosis elsewhere, but in a considerable number of cases is primary in the genitals.

"3. Its frequency is much greater than is usually supposed. A careful microscopic examination of all the tubes and ovaries removed by operation demonstrates that a considerable number of cases are tuberculous, even when macroscopically they present no trace of tuberculosis. Such cases we have designated as 'unsuspected genital tuberculosis.' In our experience about 8 per cent. of all appendages removed for inflammatory diseases are tuberculous. In other words every 12th case



of adherent tubes and ovaries or pus tubes is of tubercular origin. Only 25 per cent. of the cases are recognised on macroscopic examination, and the other 75 per cent. occur as 'unsuspected tuberculosis.' Wider experience from various sources is necessary before positive laws on these points can be formulated.

"4. Every portion of the genital tract may be affected, the order of frequency for the various portions being: tubes, uterus, ovaries, vagina, cervix and vulva. The tubes are affected in nearly all cases, the uterus in from 60-75 per cent., and the ovaries in from 40-45 per cent. of all cases.

"5. Tuberculosis of the cervix, no doubt, occurs more frequently than is usually supposed, and may be mistaken for carcinoma.

"6. Tuberculosis of the tubes and uterus is usually limited to the mucous membrane, and occurs in three forms—

"Miliary tuberculosis,

"Chronic diffuse tuberculosis,

"Chronic fibroid tuberculosis,

"Chronic diffuse tuberculosis is much the most frequent and represents the well-known caseous form of the disease.

"7. Genital tuberculosis may be due to direct infection from without. The occurrence of infection by coitus is very probable, but has not yet been conclusively demonstrated. The majority of cases are secondary to tuberculosis elsewhere, and are due either to infection from the blood or the neighbouring organs. Even in the apparently primary cases it is impossible to exclude blood infection.

"8. The symptoms are not characteristic. In primary cases they may be entirely absent or vary from those of simple endo-metritis and salpingitis to the most severe forms of pelvic abscess. In secondary cases, the symptoms of the primary affection may so over-shadow those of the genital tract that its involvement may only be recognised at the autopsy.

"9. The prognosis is always grave. Primary cases may lead to phthisis, tubercular peritonitis or general infection, and either primary or secondary cases may go on to suppuration and abscess formation, and death may result from marasmus and hectic fever or peritonitis, or from the primary affection.

"10. Primary cases can only be diagnosed by the discovery of tubercle bacilli in the secretions or the demonstration of the histological characteristics of tuberculosis in the scrapings from the uterus. The co-existence of tubo-ovarian masses with phthisis or tubercular peritonitis should at once arouse suspicion as to the tuberculous nature of the affection.

"11. Treatment may be prophylactic, palliative, and operative. Prophylactic treatment consists in cleanliness and the prohibition of coitus between persons, one of whom has genito-urinary tuberculosis.

"Ulcerations of the vulva, vagina and cervix should be treated with applications of tincture of iodine and iodoform, and excised if isolated and intractable to treatment

"Tuberculosis of the uterus should be curetted and iodoform introduced; if the disease recur, the uterus should be removed per vaginam.

"Tuberculous tubes and ovaries should be removed by laparotomy unless contra-indicated by the general condition of the patient (advanced phthisis). Tubercular peritonitis and the early stages of phthisis are not contra-indications to laparotomy."

In this paper also are appended records of cases and a very extensive list of bibliographical references.

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*Advice to Women on the Care of the Health before, during, and after Confinement.* By FLORENCE STACPOOLE. London: Cassell & Co., Limited. 1892. Pp. 134.

THIS is a very useful little handbook, plainly and concisely written. An appreciative account of Semmelweis's work and a description of the death of Princess Charlotte might at first sight be deemed padding, but they are used to emphasise the importance of cleanliness and the value of timely assistance. The usefulness of anæsthetics and the forceps, and the foolishness of the prejudice against them, are well treated. The arrangement is good, the language simple, the directions clear, and the reader will get, not platitudes, but help.

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#### *Health: Belfast.*

THIS new penny paper appears on the 7th of each month. The first two numbers for February and March contain a number of interesting sanitary articles, and the local news is well edited. Belfast people will no longer have any excuse for being ignorant as to local sanitary matters.

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*Advice to Intending Visitors to Cannes.* By H. BLANC, M.D., F.R.C.P. London: J. & A. Churchill. 1893. Pp. 42.

THIS tastefully got-up booklet contains, in a small space, much useful information. The advantages of Cannes are pointed out and receive full justice from the author, who knows and loves the place, but the drawbacks are not glossed over, and valuable

notes are given as to what classes of cases should avoid Cannes and what precautions are necessary, so that the suitable cases may be benefited.

Epilepsy, hysteria, neurasthenia, and diseases associated with hæmorrhages (acute phthisis, fibroids, cirrhosis of liver, ulcer of stomach, &c.), are injured rather than benefited by a sojourn at Cannes; whilst catarrhal affections, chronic phthisis, scrofula, and tubercular diseases of the bones, chronic gout and rheumatism, and convalescents generally, are benefited.

The paper, type, and padded cover add attractive appearance to an interesting *brochure*.

*Elementary Physiology for Students.* By ALFRED T. SCHOFIELD, M.D., M.R.C.S., &c. London: Cassell & Co. 1892. 8vo. Pp. 372.

IN this manual Dr. Schofield has attempted, and not in vain, to give a concise yet clear account of the leading facts of the science of Physiology. The author's language is for the most part simple and intelligible, and the book is eminently a "readable" one. Indeed, we have no doubt that it will be heartily welcomed, not only by medical students, for whom it has been specially written, but also by busy medical practitioners, the many calls upon whose time forbids a close analysis of rival views and theories about modern physiological problems, which are often so abstruse. And yet the work leaves much to be desired. Whether it is from a hasty passage through the press or from careless reading of the proof sheets an undue proportion of printer's errors mar the text. Thus, at page 116, we read that white blood corpuscles "vary from 1 to 800 red corpuscles when fasting *down* to 1 to 300 after a meal." Surely, this should be "*up* to." At page 118 coagulation of the blood is said to be deferred by heat above 180° C., instead of 80° C. At page 133 we meet with this contradictory statement: "There are thus, in the heart, *four* valves with three flaps (two semi-lunar and one tricuspid), and one with two flaps (the mitral)." On the very next page (134) the words "vein" and "artery" are reciprocally misplaced in the upper half of a diagram representing the circulatory system. On page 135 we read: "In case, however, of there being any *destruction* or disease in the lungs, &c." This, of course, should be "any *obstruction* or disease in the lungs."

At page 138, "dicrotic" is repeatedly mis-spelled "dichrotic." What is meant by the statement, on page 141, that "all the blood from the internal organs . . . is collected again by the hepatic vein and enters the *venæ cavæ*"? At page 132 the words "*bicuspid* or" should be inserted before "*mitral valve*," as the author has just mentioned "*tricuspid valve*." What is the "*Casserian ganglion*" spoken of at page 301?

There are also some errors both of commission and of omission. As examples of the former class, we may instance the description of uric acid (page 192) as *colourless* and *crystallising in sharp needles*. Why, one of the distinctive marks of uric acid is that its crystals take up the colouring matters of the urine, in contrast to the colourless crystals of oxalate of calcium, phosphate of calcium, and triple phosphate. And, again, its barrel-shaped, lozenge-shaped, and cayenne-pepper crystals are certainly not to be described as "*sharp needles*." We dispute, further, the soundness of the author's opinion that "*free uric acid is not common in urine*." At page 139, again, it is said that the second sound of the heart is caused (*exclusively*) by the slamming of the aortic *valve*, as if the pulmonary valves had nothing to say to the production of the sound.

In the description of the thyroid gland, at page 145, no mention is made of myxœdema, although it is stated that this gland "*is enlarged in goître*."

The author explains in his preface that he is enabled to present to the student of Physiology the "*leading facts of the science in a fuller way than is generally found in a work of this size*," partly "*by introducing very sparingly detailed descriptions of the various complicated machines by which the results recorded have been obtained*." This laudable object is, in our opinion, attained at too dear a cost by dismissing a description of the sphygmograph and cardiograph in *three lines* of print at the top of page 139. "*These instruments*," writes Dr. Schofield, "*consist essentially of a fine lever placed on the beat and connected with a sheet of smoked paper on which its movements are traced*"!

It is not to be supposed that we condemn this book. Quite the reverse, and our unsparing criticism of its weak points is intended only to secure so far as lies in us that the second edition shall be more worthy of the author's undoubted ability as a physiologist no less than as a writer of clear and intelligible English.

The book is well illustrated with two coloured plates, which serve as frontispiece, and with numerous drawings and diagrams interpolated in the text. Many of these illustrations are original, while others are copied from such masters as Frey, Flemming, Heidenhain, Schäfer, Duval, Hatschek, Izquierdo, Erb, Meynert, Henle, Gerald F. Yeo, Rollett, Gerlach, Waldeyer, Retzius, Langley, and Elberth (? Eberth).

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*Atlas of Clinical Medicine.* By BYROM BRAMWELL, M.D., F.R.C.P. Edin., F.R.S. Edin., Assistant Physician to the Edinburgh Royal Infirmary, &c., &c. Volume II. Part II. Edinburgh: T. & A. Constable. 1893. Folio. Pp. 45.

THIS part of Dr. Byrom Bramwell's great undertaking is fully up to the high standard of excellence he has set before him. The plates, which are very numerous, are of conspicuous merit. They illustrate primary, secondary, and tertiary syphilis. With this part is also issued a striking likeness of exophthalmic goitre.

Four subjects are discussed in the letterpress. First, the article on alterations in the fields of vision is continued from Part I., and is concluded. Then follows a monograph on syphilis. At page 70 there are brief notes on three cases of Friedreich's disease complicated with *main-en-griffe*, which Dr. Donaldson of Londonderry forwarded to Dr. Bramwell. The cases all occurred in the same family—two brothers and a sister, aged respectively 64, 45, and 50 years, being the victims of the disease. Lastly, an article on Asiatic cholera appropriately finds a place in the present instalment of the Atlas.

Like its predecessors, this part has been brought out in a manner which reflects the greatest credit on the publishers.

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*Report of a Case of Syringomyelia.* By JAMES HENRIE LLOYD, A.M., M.D., Physician to the Philadelphia Hospital, &c. Reprinted from *University Medical Magazine*, March, 1893. Philadelphia: University Press. Pp. 13.

In the case described by Dr. Lloyd the diagnosis was borne out by the conditions found after death which was caused by pneumonia. "The cervical enlargement 'of the cord' was broadened and flattened (somewhat ribbon-like), and to the

finger, gently pressing or squeezing it, gave the impression of containing a cavity. On section a large cavity was found beginning in the very lower part of the medulla, broadening out in the cervical region, and extending well down into the dorsal cord. It did not extend into the lumbar enlargement." The cavity was not regular in transverse shape; the normal central canal was not visible apart from it, and, therefore, it may be said that the morbid cavity was central but unsymmetrical. Above and below the cavity the central region was gliomatous, a condition probably antecedent to the liquefactive process seen in the cavity.

The clinical signs had been the usual ones, a grouping of muscular, sensory, and trophic pareses hardly explicable on any other supposition than that of an indiscriminating central lesion. In so far as the muscular atrophy went, the disease might have been mistaken for a lesion in the anterior horns; the spastic gait and increased reflexes might have suggested as the main condition the degeneration of the lateral tracts which was actually found after death; while the widely distributed anæsthesias for touch, temperature, and pain seemed to point to grave interference with the sensory routes in the cord, and especially, perhaps, the posterior horns. It is on this combination of motor, sensory, and trophic symptoms, in the first place, and on the peculiar "dissociation" of the sensory pareses, in the second place, that the diagnosis of syringomyelia rests. The trophic symptoms, besides muscular atrophy, often embrace œdema, glossy skin, bullæ, and even, assuming the identity of Morvan's disease and syringomyelia, painless whitlows and occasionally dropping off of the distal phalanges of the fingers. Dr. Lloyd's case seems to have shown comparatively few of the trophic disturbances outside of the muscular atrophy. We note that in his case, as in most of those on record, the upper part of the trapezius seemed to enjoy a long immunity from the atrophic process, thus further linking syringomyelia with progressive muscular atrophy. But the *ultimum moriens* only enjoys this immunity, probably because it is innervated from a higher level than that usually first involved; and in syringomyelia, at least, as a case lately shown in Dublin shows, it may be the earliest, and, for a time, the only absolute example of atrophy in the whole muscular system.

Dr. Lloyd's paper is a clear and concise clinical record. It

contains a good picture of the patient, some useful charts of the anæsthetic areas, and several pictures of the cord in transverse section under low magnification.

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*Physical Diagnosis: a Guide to Methods of Clinical Investigation.*

By G. A. GIBSON, M.D., D.Sc., F.R.C.P. Ed., Assistant Physician to the Royal Infirmary, Lecturer on the Principles and Practice of Medicine in the Edinburgh Medical School; and WILLIAM RUSSELL, M.D., F.R.C.P. Ed., Assistant Physician (formerly Pathologist) to the Royal Infirmary, Lecturer on Pathology and Morbid Anatomy in the Edinburgh Medical School. Second Edition, revised and enlarged. With one hundred and nine illustrations. Edinburgh and London: Young J. Pentland. 1893. 8vo. Pp. 383.

WE do not remember to have seen the first edition of this work, which was published early in the year 1890; but we have no hesitation in pronouncing a favourable opinion of the second edition, which now lies before us. If we were asked to point out an especially satisfactory feature in this work, we would select the illustrations, several of which are no doubt copied from other works, but most of which are original and instructive. In the very effective diagrams illustrating topographical anatomy and the physical conditions producing clinical phenomena, the artist, Mr. William Keiller, F.R.C.S. Ed., has attained a striking and legitimate success. Of all the drawings, the beautiful coloured plates of urinary crystals, deposits and derivatives, bear away the palm for finish as well as for truthfulness to nature.

The scope of the book is very wide. After short chapters on the evidence upon which diagnosis is based, on methods and terms, and on temperature, the physical examination of the different systems of the body is described in successive chapters on the skin, circulation, organs of respiration, the alimentary system, including the abdominal viscera, the urinary organs, the nervous system, and lastly, the examination of the eye, ear, larynx, and naso-pharynx. The sections devoted to the integumentary, urinary, and nervous systems, together with the examination of the pulse, are by Dr. Gibson; those on the circulatory, respiratory, and alimentary systems are by Dr. Russell. The authors, in the preface to the first edition, gratefully acknowledge their indebted-

ness to Dr. McBride, Surgeon to the Ear and Throat Department of the Royal Infirmary, for the sections on the ear, throat, pharynx, naso-pharynx, and larynx; and to Dr. Mackay, Assistant Ophthalmic Surgeon to the Royal Infirmary, for those devoted to the eye. These special sections are unique features in this book, and greatly enhance its value.

The authors—wisely, we think—have omitted any detailed description of the sphygmograph, on the ground that, as it is so well known nowadays, a description would be as superfluous in its case as in the case of the stethoscope. Dr. Gibson also observes:—

“It must be borne in mind that the sphygmograph is of limited use in diagnosis. It reveals no new fact which can enable us to discover affections unknown before its invention; it nevertheless brings into prominence certain points in regard to the pulse which would be less definite without its aid, and it is on this account of some clinical interest. On the other hand, there are some aspects of the pulse which can be much more accurately gauged by means of the finger than by the help of the sphygmograph. The instrument can, therefore, only be regarded as a supplement to the finger of the observer.” (Page 98.)

While there is not much to find fault with in this book, we cannot avoid drawing attention to the statements that, in the first stage of pneumonia (congestion and exudation) “there is comparative percussion dulness, the pitch being higher than on the unaffected side” (page 169); and that “in the early stage it (phthisis) is characterised by dulness on percussion” (page 173). These statements require qualification. As a matter of fact, in both the morbid conditions named, tension of the lung tissue is diminished and the percussion sound is for the time hyper-resonant, or tympanitic. Writing on this very subject, Paul Guttman in his “Handbook of Physical Diagnosis” (translated in 1879 for the New Sydenham Society by Dr. Alex. Napier) observes: “A *tympanitic percussion-sound* is sometimes also heard in *pneumonia*, especially in the first stage and in that of resolution.” And again: “The percussion-sound is frequently observed to be *tympanitic* in the supra- and infra-clavicular regions when the summits of the lungs become the seat of *caseous pneumonic infiltration*.” “Here also,” he adds, “the tympanicity depends on the relaxation of the lung substance and diminution of its air-contents.” Repeatedly have we had an opportunity of verifying in clinical examinations the correctness of these statements by Guttman.

There is little doubt that this work on “Physical Diagnosis”



will be popular among students. It is clearly printed on good paper, is of convenient size, and does not cost too much. We heartily recommend it as a reliable guide in clinical examination.

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*Notes on the Malarial Fevers met with on the River Niger (West Africa).* By W. H. CROSSE, Principal Medical Officer, Royal Niger Company, Chartered and Limited. London: Simpkin, Marshall, Hamilton, Kent, & Co., Limited, and H. H. G. Grattan, 16, The Borough, London Bridge. 1892.

IN this neat booklet of 106 pages the author gives the results of his experience of the causation, symptoms, and treatment of the dreaded malarial fevers of West Africa. The writer "does not profess to give an exhaustive or detailed account of all the diseases caused by malaria;" for a full description of this he refers his readers to the more elaborate volumes of other authorities. After a short introductory section on "Malarial Fever or Ague," there are successive sections given to the consideration of "Intermittent Fever," "Remittent Fever," and "Blackwater Fever." Then comes another on the "Treatment of Malarial Fever," followed by "Effects and Sequelæ of Malarial Poisoning," and "Notes on some Cases of Malarial Fever" (26 in number). The arrangement of the material is somewhat crude, and the author's style, punctuation, and syntax could easily have been improved by skilled revision. The volume will, however, repay perusal, as it contains the results of personal observation in this terrible hot-bed of malarial disease. His summary of the use of *quinine* agrees with what we have been so generally taught. "This is the most valuable drug we have for the treatment of malarial fevers. It is a specific which rarely fails; when it does, there will probably be some special reason, such as extreme malarial cachexia, organic disease of the liver or kidneys, and in rare cases of hæmoglobinuria such extensive destruction of the red blood-cells that no drug can be of much service, the patient's condition being somewhat like that brought on by excessive hæmorrhage." *Antipyrin* "is often of great service, especially during the hot stage; it has, however, to be administered with some caution, especially in people who suffer from cardiac trouble, as it is a depressant. . . . Large quantities of antipyrin produce hæmoglobinuria, but this effect is never caused by medicinal doses." The author believes that "*opium* s one of the most valuable drugs we have," that *arsenic* un-

doubtedly has antiperiodic properties, that *iron* should be tried in cases of hæmoglobinuria when the temperature is not very high; while of Warburg's Tincture he says: "I have entirely given up the use of this; the taste is most unpleasant, and I believe that not being allowed to drink between the doses is very distressing and harmful to the patient."

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*Microbes et Maladies.* Par le DR. J. SCHMITT, Professor agrégé à la Faculté de Médecine de Nancy. Paris: Librairie J. B. Baillière et Fils. 1886. (Bibliothèque Scientifique. Contemporaine).

THIS interesting and instructive little volume has come to hand rather late from the date of publication. A manual of bacteriology aged seven years may be almost be said to belong to the literature of antiquity. The microbes have during these seven years been growing in importance, and extending their influence over the whole domain of pathology. The general principles of the science which deals with their life history and their association with the phenomena of disease remain, however, pretty much what they were when this volume saw the light; and the difficulties which some sceptics still offer to the general acceptance of their presence as the essential factor of disease have not yet been wholly removed.

This manual is a reprint of the articles "*Zymotiques (maladies)*" and "*Microbes*," which had previously appeared in the pages of the *Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques*. Accordingly, it consists of two parts: the first "*est consacrée à l'étude des microbes*," while the second "*est une étude générale des maladies zymotiques ou infectieuses*." The author does not pretend to aim at originality: "*nous n'avons pas eu la prétention d'innover; notre but plus modeste a été de résumer ce que nous ont appris les Pasteur, les Koch, les Cornil, les Liebermeister, et tout d'autres dont les brillantes recherches ont en quelques années établi sur les bases certaines une médecine nouvelle.*" Dr. Schmitt can well be congratulated on the fulfilment of the task to which he had set himself. The first part occupies 156 pages; the second, and concluding part, reaches to page 296. There is a table at the end, but no index—which we regret. Like most of the other articles in the truly splendid encyclopædia of medicine and surgery from which these have been reprinted, they contain an excellent summary of the (then) existing state of knowledge of the subjects

with which they deal; and of which every fact and theoretical statement is placed before the reader with the crystalline clearness of thought and diction, which forms so prominent a feature of all the high-class French scientific work of the present age. So that, although somewhat out of date for the requirements of the specialist, we cordially recommend the volume to the attention of the student and of the medical practitioner for an admirably clear statement of the facts and principles which form the basis of our bacteriological knowledge of the present day.

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*Arcachon, in the Department of the Gironde, France : its advantages as a Health Resort.* By the Rev. SAMUEL RADCLIFF, British Chaplain. Second Edition, with Medical Appendix by Dr. FESTAL. London : Thomas Laurie. 1893. Pp. 64.

WITHIN the compass of this well-written little book, the reverend author has succeeded in focussing a vast amount of interesting information about Arcachon and its neighbourhood. Situated about thirty-five miles west-south-west of Bordeaux on a promontory on the southern shore of a large land-locked inlet from the Bay of Biscay, called the "Bassin d'Arcachon," this favourite health resort possesses many advantages as regards climate, surroundings, and accessibility.

The weather at Arcachon depends essentially upon the direction of the winds. Those which blow from the Atlantic are temperate at all seasons—warm and moist in winter and cool in summer, while those which blow off the land are cold in winter and hot in summer, as well as dry at all seasons. The westerly winds being the prevailing ones, the climate is on the whole wonderfully temperate. When the land winds—from easterly points—prevail, however, the cold may be severe in winter and the heat extreme in summer. One of the chief climatic advantages enjoyed by Arcachon is the comparative stillness of the air in the Ville d'Hiver, owing to the shelter afforded by the neighbouring sand-dunes and pine-woods.

Arcachon may be reached in an hour and a quarter from Bordeaux, in twelve to fourteen hours from Paris, in twenty-four or twenty-five hours from London, in five or six hours from Pau or Biarritz. The least fatiguing way of reaching it from England is to go by sea from Liverpool to Bordeaux by the vessels of the Pacific Steam Navigation Company or of the new Moss Line; or

from London to Bordeaux by the vessels of the General Steam Navigation Company. Full information as to routes and fares may be obtained on application to Mr. Thomas Laurie, 28 Paternoster-row, London, who acts as agent for families about to proceed to Arcachon. We may mention that this favoured place possesses the almost unique advantage of having direct communication by telephone with Bordeaux, Paris, and London.

Arcachon is now a place of considerable size, the population at ordinary times being about 8,000. In the months of August and September, however, the visitors far out-number the residents. They amount to 15,000 or 20,000 and upwards, and consist chiefly of families from Bordeaux, but with a considerable sprinkling of Parisians, provincials, and foreigners of various nationalities. In the winter and spring months English visitors are met with in greatest numbers. The town stands in a district formerly occupied by a very beautiful piece of old forest. At the eastern and western ends of the town the forest comes quite close to the boulevard, but in the centre the town extends back for some little distance to the foot of a steep ridge of hill covered with forest.

Dr. Hameau, one of the chief French physicians resident at Arcachon, sums up the climatic influences of the place in the following sentences:—

“The climate of the forest of Arcachon is sedative to the nervous system.

“It places certain consumptives in a medium favourable to the cure of their disease, and always to some degree of improvement, when there is a predominance of the nervous system.

“It favours the cure of chronic bronchitis under the same circumstances.

“It is unfavourable to every disease of the chest in persons of a torpid and lymphatic temperament.

“It suits most asthmatic persons.”

The Rev. Mr. Radcliff adds to these statements of Dr. Hameau that not only in diseases of the chest, but in any disease whatever, occasioned by, or complicated with, nervous irritation, the climate of Arcachon will be found beneficial, provided that the patient has not constitutionally a very weak heart or a torpid liver.

In an appendix, Dr. A. Festal, formerly House Surgeon in the Paris hospitals, gives the medical indications as to the suitability or unsuitability of Arcachon as a health-resort, and his conclusions agree in the main with Dr. Hameau's views.

Mr. Radcliff's little work also contains chapters on accommodation for visitors, housekeeping, education, society, and amusements; industries, such as the cultivation of the pine forests, fishing, and oyster culture, general information, objects of interest, and excursions—so that though small in size it is comprehensive in scope.

With the author we endorse Dr. Hameau's prediction that Arcachon will yet hold a high place in the resources of the healing art, "*en dépit des critiques passionnées, et des louanges plus exagérées encore, qu'on ne lui épargne pas.*"

*Headaches; their Causes and Treatment.* BY WM. HENRY DAY, M.D. Fourth Edition. Churchill. Pp. 432.

WE regret the delay which has occurred in noticing this book, which, having reached a fourth edition, must be assumed to supply a want. We think, however, after perusing it, that if it were condensed to one half its size it would prove a still greater success, and that this edition, instead of being a fourth, might probably have been a fifth or sixth. The pith and essence of the subject is surrounded by a vast amount of writing which one has to get through before extracting any real worth; and yet it contains much interesting and useful material. A copious and accurate index in some measure counteracts this fault, but, reduced as we suggest, and the superfluous writing expunged, it would be a most useful volume.

The paragraphs on treatment are particularly good. They are clear, and physiologically sound, and the expressions of a scientific physician.

The first edition was issued in 1877, and the preface to the fourth tells us that "the chief portion of the present work remains in its original condition." Taking it up at any point and reading it, one feels that it is an old work, written twenty years ago. With the enormous amount of literature at the present day it is hard for such books to succeed, and we earnestly hope Dr. Day will in his next edition give us the pleasure of reading a much smaller, more concise and lucid book. A series of short graphic essays, vividly describing each variety of headache, would be a much less sleepy volume to read, and one which would be re-opened more frequently. A long list of formulæ is appended and referred to in the text.

## PART III.

### SPECIAL REPORTS.

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#### REPORT ON PUBLIC HEALTH.<sup>a</sup>

By SIR CHARLES A. CAMERON, M.D., D.P.H., Camb., M.R.C.P.I.;  
Ex-President and Professor of Hygiene and Chemistry, R.C.S.I.;  
President of the British Institute of Public Health and of the  
Society of Public Analysts; Medical Officer of Health for  
Dublin; Hon. Member of the Hygienic Societies of France,  
Belgium, Paris, Bordeaux, the Academy of Medicine, Sweden,  
and of the State Medical Society of California, &c.; Examiner  
in Sanitary Science, Royal University of Ireland; Member of  
the Army Sanitary Committee.

#### ON THE DURATION OF HUMAN LIFE UNDER VARIOUS CONDITIONS.

The duration of human life varies considerably in different countries, and is influenced by many conditions, chiefly social, industrial, geographical, and topographical. The investigation of the influence of occupation and other conditions on longevity is beset with many difficulties, and is sometimes pursued on fallacious lines; but, on the whole, it has resulted in the discovery of an immense number of biological facts.

#### INFLUENCE OF CLIMATE ON DURATION OF LIFE.

In tropical countries life is shorter than it is in temperate zones. According to the great French hygienic writer, Michael Levi, there is one death annually amongst every 25 of the population from the equator to twentieth degree of latitude, one death in 25 inhabitants from the twentieth latitude to the fortieth, one in 43 from the fortieth to the sixtieth, and one in 50 from the sixtieth to the eightieth.

At the time Levi made these estimates he probably understated the death-rate of at least Europeans in the tropics. The statistics of British authorities in reference to the mortality of Europeans

<sup>a</sup> The author of this Report will be glad to receive any books, pamphlets, or papers relating to hygiene, dietetics, &c. They may be forwarded through the agencies of the Journal.

in India, previous to 1864, show that the death-rate amongst them was nearly 70 per 1,000 in the case of soldiers, and at least 35 per 1,000 amongst the civil population. In some Indian cities the mortality was believed to exceed 60 per 1,000. In those times it must have been difficult to insure the lives of Indian officials, or of soldiers stationed in India, except on almost prohibitive terms. Things are now very different in that country owing to the great sanitary improvements effected within the last quarter of a century. During the five years ended in 1888 the death-rate of European soldiers per 1,000 was only 14·27. Owing to defective registration the death-rate in India is not accurately known, but it is believed not to exceed 27 per 1,000, or about 8 per 1,000 above the rate in England.

The influence of a high temperature on man is enervating, even in the case of native races, but of course to a much greater extent on those who have migrated from cold or temperate regions to a tropical or sub-tropical one. Even a temperate climate may prove too warm for some races—as, for example, that of England for the Esquimaux, for it is a fact that the natives of the Arctic Circle soon die if transported to more southern climes. The question, can Europeans enjoy full measures of life, health, and vigour in tropical countries? has been frequently discussed. There seems to be a consensus of opinion that on the plains they cannot maintain themselves in health, or live so long as in their own countries. Even in elevated tracts in the tropics, where the air being rarefied the temperature is cooler than on the plains, it is doubtful if Europeans can become perfectly acclimatised. Although the mean annual temperature of the highlands of a tropical region may not be higher than that of the south of Europe, yet the atmospheric conditions will be very different. In those elevated regions the air is rarefied, and a much larger quantity must be taken into the lungs to supply the necessary amount of oxygen. This causes hurried and shallow, and often difficult, respiration. Fatigue cannot be so easily borne, and the lessened pressure upon the surface of the body may cause the blood-vessels to dilate, which is by no means a desirable effect.

The table-land of the Deccan in India, 2,000 feet above the level of the sea in some parts, and having the mildest climate in India, cannot, according to Surgeon-General Sir William Moore, be colonised effectively by Europeans. The Eurasian population, even those of pure European descent, are rapidly becoming a weak

and pauperised class. On the other hand, we have the case of the Boers of the Transvaal, apparently proving that a European race can be perpetuated in a sub-tropical country. The Transvaal goes well into the equatorial regions, but its elevation—from two to eight thousand feet—gives it a comparatively cool climate. There are only about 60,000 Boers, but this people have resided sufficiently long in Africa to enable us to estimate the effects of climate upon them, and so far the Boers show no sign of degeneration.

The question, can Europeans thrive in elevated equatorial or sub-equatorial regions? has recently become specially interesting on account of the proposed colonisation of Mashonaland and other elevated countries in Africa. The duration of life in tropical countries would not be less than it is in temperate ones, were it not for the fevers which are so common in the former. In the United Kingdom only about one death in every nine or ten deaths is due to fever. In Dublin the fever death-rate, including such diseases as measles, whooping-cough, and diarrhœa, is about 2·5 per 1,000 of the population. In the ten years ended in 1890 the death-rate from fever in Assam was 14·55 per 1,000 persons living. In Berar the deaths from all causes in the decade ended in 1890 were in the ratio of 35·3 per 1,000; the death-rate from fevers being 15·9 per 1,000. The fevers did not embrace cholera, small-pox, dysentery, or diarrhœa, but no doubt they may have included some diseases which were not well-defined fevers.

In Bombay Presidency the deaths from all causes in 1890 were in the ratio of 28·18 per 1,000 of the population, the deaths from fevers being 20·96 per 1,000. If we take all the diseases which in these islands are termed zymotic, we find that in Bombay the death-rate from them was 23·52 per 1,000 in 1890; there was therefore only a death-rate of 4·66 per 1,000 from all other causes. In the large English towns the general death-rate is about 22 per 1,000, and the zymotic death-rate 3 per 1,000.

As fevers belong to the group of "preventable diseases," it seems not unlikely that improved sanitation may so alter the conditions of life in hot countries that a man may live as long in Calcutta or New Orleans as in London or New York, although he may not be able to work so hard in the former.

At present we have in one very hot country an illustration of what may be accomplished by sanitary measures. Ceylon has a mean annual temperature of 80° F. on the plains—that is, 30



degrees higher than in Ireland, yet the death-rate is only 23 per 1,000.

In Ceylon great attention has been paid for many years past to the subject of public hygiene. The towns are well supplied with good water, and filth is removed from the centres of population expeditiously and effectively. As there are still many sanitary defects to be remedied in this island, further improvements will probably equalise its death-rate with that of Great Britain. It may yet be found that Europeans, though not capable of working in the fields in hot climates, may enjoy in them full measures of health and longevity.

#### LIFE IN LARGE TOWNS.

The average duration of life is less in towns than in the open country. In rural districts the death-rate is about 17 per 1,000, whilst in some towns from 20 to more than 30 persons die annually per 1,000 of the population. With the exception of some Scandinavian towns, there are few Continental urban districts which have such small bills of mortality as the English towns have. But high as are the recorded rates, urban districts are even worse than they seem to be, and for the following reasons:—First, because towns contain a larger proportion of persons whose expectation of life is greatest. Secondly, the duration of female life is greater than that of males, and in towns there is a greater excess of females over males than in the country. The ages of the population are distributed by the Registrar-General of England and Wales into 11 groups—for example, under 5 years, 5 to 10 years, 10–15, 15–20, 20–25, and then in 10 year groups, 25 to 35, up to 75, and a last group of 75 and upwards. The death-rate per 1,000 persons of each of these groups varies considerably. In the first group the mortality is very great, usually about 68 for males, and 58 for females, per 1,000. The mortality is about the same in the group of persons aged from 65 to 75. Fewer persons die between the ages of 10 and 15 than at any other period of life, due regard being had to their relative numbers. In the population at large the proportion of persons under 5 is about 14 per cent., whilst there are only about 3·3 per cent. of persons aged from 65 to 75. From 10 to 35 the rate of mortality is very low.

Now about 25 per cent. of the population at large consist of persons of those ages; but in some towns the percentage of persons of this group is much higher. The mortality of males is about

10 per cent. greater than that of females. Now it follows from the foregoing, that the recorded death-rates of towns in which the females are relatively more numerous than males as compared with the whole population, or in which there is an excess of persons of ages of greatest viability, must be corrected. The English Registrar-General has for some years past corrected what may be called the crude death-rates, so as to make the urban mortality statistics comparable with those of the country at large. It is found that the corrections for age and sex distribution has added to the recorded rates in all the large towns, except Norwich and Plymouth, the rates recorded in which have to be slightly decreased. If we take the recorded death-rate for London, we must multiply it by the factor 1·0615 in order to arrive at the true rate. Manchester stands in the most favourable position amongst the English towns with respect to age and sex distribution. Thus its recorded death-rate, which was in 1890 30·57 per 1,000, became when corrected 34·06 per 1,000.

The Registrar-General for Ireland only gives the recorded death-rates for Ireland and its towns; but for some years past I have corrected the death-rate for age and sex distribution for Dublin, Belfast, and Cork. Sometime ago I re-calculated the death-rates in British and Irish towns, correcting former, and often very erroneous estimates, by the information given by the Census of 1891. That Census proved that the population of Liverpool had been over-estimated to the extent of nearly 100,000, whilst Belfast population, which was estimated to have increased from 1881 to 1891 at the rate of 1·3 per cent. yearly, had actually increased in the ratio of 2·5 per cent. Belfast is placed under more favourable conditions with respect to age and sex distribution than Dublin, and Dublin than Cork. I found that the crude death-rate of Dublin in the decade ended in 1890 was 26·8, but the corrected rate was 29·6. The crude rate in Belfast in this period was 24·5, and the corrected rate 28·1, whilst in Cork the recorded rate was 25·1, and the corrected one 27·4. In 1891 the corrected rate for Dublin was 28·2, for Belfast 29·3, and for Cork 29·4. In the period 1881-90 I calculated the corrected death-rate in the large English towns to be 23.

It is not satisfactory to find Irish towns having death-rates so largely in excess of the average rate for the English towns, which is all the more remarkable from the fact that in the Irish rural districts the duration of life is stated to be somewhat greater than

it is in England. In Ireland then we may, without exaggeration, state that the duration of human life is nearly 50 per cent. less in the towns than in the country. The causes of the comparative unhealthiness of towns are numerous; some of them hardly admit of remedies, but the more serious ones can be effectually grappled with. The speedy and complete removal of filth from towns, the construction of good street sewers, the erection of healthy dwellings, the prevention of over-crowding in houses, the providing of open spaces in densely inhabited districts, the prevention of trade nuisances, and many other sanitary measures, including ample supplies of pure water, have greatly lessened the mortality of urban populations. It is not easy to provide remedies for the evils which are incidental to so many industrial occupations.

It would, however, be a mistake to believe that all classes are alike affected by the insanitary conditions affecting towns. On the contrary there are some sections of society among which the rates of mortality differ but little in town or country. These are the upper classes, and what we may term the upper strata of the middle classes. Provided with good food and warm clothing, residing in the most open parts of towns and in the best houses, and having during illness proper medical care and good nursing, we need not be surprised to find that even in Dublin people of those classes have a comparatively low death-rate. Dr. Grimshaw, the Registrar-General, has shown in his reports the different rates of mortality amongst the middle and professional and the working classes in Dublin. In his Report for 1892, it is stated that the deaths in families of the professional classes, including naval and military officers and heads of public departments, were in the ratio of 28·4 per 1,000 of the population belonging to that group, the rate in the families of the higher merchants and manufacturers was 21 per 1,000, in the families of "persons of rank and property, not otherwise described," 24·4, in the families of the general body of officials (civil servants, &c.) 16·2, in the artizan class and petty shopkeepers 24·8, and in the general service class, including workhouse inmates 37·3. Some extraordinary facts are shown in these statistics; for example, although the mortality in the general service class is so enormous, in one division of it, namely the 39,967 domestic servants, it is very low, namely, 11·9. The low mortality in this class is probably chiefly due to the fact that but few young children belong to it, and that the great majority of domestic servants are of ages at which there is

a very low rate of mortality. The death-rate amongst the persons belonging to the clothing trade is only 16·6, whilst amongst the building and furnishing trades it is 29·4. The proportion of children under five years old is much smaller in the group comprising the clothing trade than in the families of the persons engaged in the building trades, and in the former females, no doubt, greatly exceed the males, and having a lower death-rate reduce the general rate of mortality of their class. I confess, however, that I cannot understand why the death-rate should be 26·4 amongst the professional classes and heads of departments, seeing that they are well housed, fed and clothed, and that they live in the cleanest and most airy parts of the city and its suburbs. The professional and independent class, which includes the professions, army and navy officers, heads of departments, and persons of rank and property, have a death-rate of 26·1, whilst the rate is only 20·4 in the middle class (civil servants, bank clerks, traders, commercial assistants, and residents in second class houses). The English and Scotch Registrars-General do not give the occupations of those whose deaths they register, but it would be desirable if they followed Dr. Grimshaw's example. The statistics collected in Dublin could then be compared with similar statistics obtained in English and Scotch towns, and some general conclusions of a useful character deduced therefrom.

#### TOPOGRAPHICAL INFLUENCES ON LONGEVITY.

The mortality caused by several diseases is influenced, and often considerably, by the physical geography and geological formation of country. Mr. Alfred Haviland has shown that wherever the winds that blow from the sea cannot penetrate, there is a high mortality from heart diseases. This is the case with the valley systems which have axes at right angles with the prevailing sea-winds and tidal waves. The same author has shown that the highest mortality due to cancer occurs where the clays of different formation abound, and are liable to be flooded by rivers. On the chalk districts deaths from cancer are less frequent than on the clays. During the period 1851-70 the deaths annually caused by cancer amongst women thirty-five years old and upwards, were in the ratio of 14·4 per 10,000 females living. The deaths on the chalk during this period were 22·9 per cent. fewer than those on the clays.

I found, from a study of the distribution of typhoid fever in

Dublin, that the deaths caused by this disease are 50 per cent. greater on the gravels than on the alluvian or clays. Sir George Buchanan, Dr. Kelly, and others have pointed out the high death-rate from phthisis which prevails on wet soils, especially if the situation is bleak. The thorough drainage of some towns has led to a remarkable diminution in the mortality caused by phthisis—as, for example, in Salisbury to the extent of 49 per cent., in Leicester 31 per cent., in Bristol 22 per cent. A careful investigation into the distribution of phthisis in Surrey, Kent, and Essex, proved that it prevailed most on low-lying and impervious soils. The disease was less on sloping than on flat lands. The researches of Dr. Bowdich in the United States have also shown the correlation of damp soils and phthisis. In Scotland the towns having least phthisis are Edinburgh and Leith, which are built on dry sites; whilst Glasgow and Greenock, which are situated on very damp sites, are ravaged by phthisis.

The mortality caused by diarrhœal diseases is much influenced by topographical conditions. Dr. Ballard, of the English Local Government Board, says that the one condition which gives an almost absolute immunity from these diseases is to have one's house built on a hard and impervious rock. On what is called made ground deaths from diarrhœa are very numerous. In this respect Leicester has an unenviable notoriety, and has the highest death-rate from diarrhœa in the United Kingdom.

One of the most interesting of modern discoveries in the domain of pathology is that relating to the connection between tetanus or lockjaw and the soil. It seems that it is a peculiar bacillus or micro-organism, which exists in soils, that gives rise to tetanus. The bacilli are most abundant in cultivated soils, but they may exist in the mud of streets, and even in the dust in houses.

The deaths from diphtheria appear to be on the whole more numerous in country districts than in great centres of population, though lately it is increasing in the latter places. It occasions a very trifling mortality in Dublin. In Wales and the northern counties of England it is common, whilst in the midlands and the south of England it causes but a small fatality. It is a very fatal disease in the United States.

Great density of population is a prime factor in causing a high death-rate. Dr. Gairdner, of Glasgow, has shown that in the rural districts of England, where the population on a square mile was only 56, the death-rate was 15 per 1,000 persons living, the districts with

a population of 106 per square mile had a death-rate of 16, those with 202 per square mile a rate of 20, and the death-rate increasing directly as the density of the population increased, came to be 27 and upwards in districts containing 2,900 persons to the square mile.

#### INFLUENCE OF OCCUPATION ON LIFE-DURATION.

The occupation of persons has considerable influence upon their health and longevity. Some of the pursuits of man are eminently health-giving, whilst others tend to abridge the period of life.

The statistics showing the influence of occupation upon life-duration relate nearly altogether to males, there being very few showing the effect of different kinds of employment on females. One of the most eminent authorities on mortality in relation to occupation is Dr. William Ogle. He has shown the death-rate of men belonging to various professions and trades; the ages of the men being from 25 to 65. He takes the rate amongst clergymen as a standard, being the lowest, and represents it by the figure 100. The following figures represent the comparative mortality in different occupations, taking the 100 as a standard:—Lawyers, 152; medical men, 202; commercial clerks, 169; commercial travellers, 171; gardeners, 108; farmers, 114; shopkeepers generally, 158; shoemakers, 166; tailors, 189; masons and bricklayers, 174; carpenters and joiners, 148; cabinet-makers, 173; paper-makers, 129; printers, 193; millers and bakers, 172; agricultural labourers, 126; fishermen, 143; cab and omnibus men, 267; coal miners, 160; Cornish miners, 331; quarry-men, 202; butchers, 211; bookbinders, 210; file-makers, 300; scissors-makers, 229; earthenware-makers, 314; brewers, 245; innkeepers and liquor dealers, 274; inn and hotel servants, 397; costermongers, hawkers, and street-vendors, 338; cotton-workers, 196.

These statistics show that persons whose occupations keep them in the country, such as farmers and agricultural labourers, have low rates of mortality, whilst the workers in factories, and even the town shopkeepers, are comparatively short-lived. One of the most serious factors in shortening life is constrained position of the body; stooping over work, and pressure upon the chest—say upon the breast-beam of the loom—prevents free respiration, and contracts the capacity of the lungs. The well-known dyspepsia of the shoemaker, with its attendant train of evils, results from prolonged pressure of the last upon the pit of the stomach.

The high mortality of the persons engaged in cutlery, cotton and linen works, in mining, and in making earthenware, mainly arises from the inhalation of dust of various kinds into the lungs. In the case of the factory workers respiration of impure air is also a factor. The enormous mortality of persons engaged in the sale or service of alcohol is, of course, merely the result of intemperance. These persons die from disease of the liver to an extent six times greater than the population at large.

If we take fishermen as a standard, and represent their mortality from phthisis and lung diseases by 100, then the mortality caused by these maladies will be 170 in the case of carpenters, 201 in bakers, 166 in coal miners, 234 in wool workers, 274 in cotton workers, 229 in masons and bricklayers, 383 in scissors makers, 393 in file makers, 565 in stone and slate quarry men, and 579 in Cornish miners.

All kinds of dust are not equally injurious. For example, the large volumes of dust in flour mills appear to produce very little effect on millers. On the other hand stone and clay dust appears to be extremely injurious when inhaled.

We are much indebted to Dr. Bertillon for valuable statistics of the mortality in different occupations. He is the head of the Statistical Department of the Municipality of Paris, and the author of various works on demography and vital statistics. I quote a few of the statistics which he brought under the notice of the International Hygiene Congress in 1891. He shows that in Paris out of every 1,000 clergymen aged 20 to 29 5 die annually, from 30 to 39 8·2, from 40 to 49 9, and from 50 to 59 30·5. At the earlier ages the death-rate is exceedingly low, but the sudden rise from 9 between the ages of 40 and 49 to 30·5 from 50 to 59 is surprising. The vendors of milk, butter, eggs, cheese, fruit and fish have a very low mortality—namely, 5·7 from 20 to 29, 9·9 from 30 to 39, 11·8 from 40 to 49, and 17·4 from 50 to 59. Barristers have a death-rate of 9·8 per 1,000 from 20 to 29, 11·6 from 30 to 39, 11·1 from 40 to 49, and 22 from 50 to 59. Medical men aged from 20 to 29 die at the rate of 9·9 per 1,000 living, at from 30 to 39 11·3, from 40 to 49 9·8, and from 50 to 59 22·8. Amongst carpenters the rates at the four periods are 10·5, 18·8, 24·3, and 30·7. The occupations which are most strikingly associated with high rates of mortality are those of the baker, liquor dealer, worker in stone, painter, plasterer, plumber, bootmaker, printer, lithographer, engraver, ironmonger, coachmaker, hosier, and persons connected

with the administration of omnibuses, hackney carriages, &c. Amongst the healthy occupations may be enumerated: horticulturists, foundrymen, sword cutlers, coppersmiths, tinsmiths and coopers. The death-rate is very low amongst the upholstery and furniture dealers—namely, 6·7 per 1,000 at the ages 20 to 29, 10·6 from 30 to 39, 14·5 from 40 to 49, and 22·7 from 50 to 59. The deaths amongst the male population of Paris are in the ratio of 11·1 per 1,000 at the ages 20 to 29, 14·9 from 30 to 39, 21·2 from 40 to 49, and 31 from 50 to 59. Persons engaged in the postal and telegraph services have very low rates of mortality at all ages; and still lower are the rates amongst the grocers. For example, 44·1 of every 1,000 plumbers aged from 50 to 59 die annually, whilst only 11·4 grocers of the same ages die per 1,000.

In some professions the mortality is comparatively low at certain ages, and very high at other age-periods. For example, in the service of the banks and assurance companies the mortality is high at the ages 20 to 29—namely, 17·5, or 6·4 above the mean rate for all classes at those ages; but from 30 to 59 the deaths are 30·7, or 0·3 below the mean for the whole population. Notaries, attorneys and their clerks, and officers of the law courts, die between 20 and 29 at a rate 0·8 below the mean rate for the whole population at those ages, whilst at from 50 to 59 they die at a rate exceeding the average by no less than 11·3. Pharmacists and herbalists have very low rates at all ages. Out of every 1,000 horseshoers aged from 50 to 59 43·8 die annually, whilst only 15·7 pharmacutists die under similar conditions.

#### INFLUENCE OF MARRIAGE ON LONGEVITY.

Bertillon has studied the influence of matrimony on longevity, and his results are eminently encouraging to the candidate Benedicts. They apply to France, Holland, and Belgium, but no doubt are applicable to our own countries. They are of so startling a character that if they were put forward by a less eminent vital statistician than Bertillon, they would hardly be credited. He tells us that from 25 to 30 the married men die at the rate of 6 per 1,000, the unmarried at the rate of 10 per 1,000, and the widowers in the ratio of 22 per 1,000. From 30 to 35 the death-rates amongst these classes are 7, 11, and 19·5 per 1,000 respectively. At greater ages the same favourable difference exists in the case of the Benedicts *versus* the celibates. It is curious that widowers are more likely to die than men of the same age who have never been



married. The only exceptions to the low mortality of Benedicts are in the case of those who marry at very early periods of life. It may be well that very youthful persons who desire to worship at the shrine of Hymen should know that married men, or rather boys, aged from 18 to 20 die at the same rate as men aged from 65 to 70.

Marriage is not so favourable to longevity in women as in men. No effect is observed until after the age of 25. Spinsters aged from 30 to 35 die at the rate of 11 per 1,000; wives of the same ages in the ratio of 9 per 1,000. The mortality is greater in the case of wives under 25 than in that of spinsters of the same ages. After 40 the longevity of married women is much greater than that of spinsters of corresponding ages. Middle-aged widows do not live so long as middle-aged wives or spinsters. A man who marries at 25 has a mean expectation of 40 years more of life, but the unmarried man of same age diminishes by 5 years the after duration of his life by remaining single.

#### MENTAL INFLUENCES.

Psychological as well as physical influences may shorten or prolong life. When men are in easy circumstances, and have no serious domestic troubles, they are more likely to live longer than those whose minds are in a chronic state of anxiety owing to insufficiency of income, or to sickness, death, or other misfortunes in their families. Irregularities in mode of living, the violation of the obvious laws of health, indulgence in vices, all tend to curtail man's sojourn in this world. The calm lives of the clergy, and their certain income, though it may not be a large one, accounts for their longevity. I may here remark that the Protestant clergy live longer than the Roman Catholic. As the latter are celibates, Bertillon's statistics would account for their high mortality, but there may be other influences.

The length of life attained by annuitants is proverbial. The experience of the Australian Mutual Provident Society shows that in the case of male annuitants out of every 100 expected deaths amongst them only 85·6 actually occurred, whilst of every 100 expected deaths of female annuitants only 67·9 took place.

We have other proofs of the good influence which a contented mind exercises upon the conditions of the body. For example, Mr. C. G. Stenhouse has shown in a report on the experience of lives in the Scottish Widows' Fund, for fifty years ended 1884, that the

rich insurers lived the longest. That is, that the mortality was greatest amongst the lives assured for the smallest sums; in other words, the larger the amount of the risk the better was the ratio of mortality. Persons who assure their own or others' lives for small sums, belong to what has been aptly termed the "Uneasy Classes," whose minds are ever filled with anxious thoughts as to how they are to make both ends meet, and provide for the future of their children. It is worth noting that whilst the best lives in the United Kingdom are those which are insured for large sums, the contrary is the case in the Colonies and the United States. No doubt this is due to the fact that the capitalist in the new countries is generally a speculator, and does not lead the same tranquil life which is enjoyed as a rule by the moneyed classes in the old countries. In the New World the capitalist makes his capital, in the Old he usually inherits it.

#### TOBACCO AS A MICROCIDÉ.

Very few hygienists have a good word to say for tobacco; on the contrary, there is an extensive literature showing its injurious effects, especially upon the heart. An anonymous writer in the *Journal d'Hygiène* for 18th April, 1893, extols it as an excellent microcide. He quotes numerous experiments published in the *Italia Termale* for 21st February, 1893, by Doctor Tassinari. After detailing his researches in referring to the action of tobacco smoke upon microbial life the Doctor deduces from them the following conclusions:—

1st. The smoke of cigars (Cavour, Virginian, or Tuscan) and black and cut tobacco possesses a very marked bactericidal power, and is especially antagonistic to the bacillus of Asiatic cholera.

2nd. The microcidal action of tobacco smoke is in all probability due to empyreumatic products of the combustion of nicotine.

3rd. During epidemics of cholera and typhus fever, the use of tobacco may be useful rather than hurtful.

4th. Tobacco smoke deserves special consideration in reference to the hygiene of the mouth, as it seems to be a prophylactic against microbial affections of the buccal cavity.

The anonymous writer (Dr. de F.) gives us a recollection of his youth. In 1832, when Asiatic cholera was epidemic in Paris and threatened to extend to the Mediterranean departments, he smoked his first cigar. Not usual with *débutants* in smoking he suffered no unpleasant effects, but did not derive any pleasure from

the performance. However, the smoking continued seemed to him to act as an anticholeraic, or we would now say a bactericide.

#### EPIDEMIC PANCREATITIS.

Dr. Ernest Frederick Gardner, in a pamphlet published in the present year by Adlard and Son, Hanover-square, London, advances the theory that a species of epidemic influenza (so-called) prevails in England which he considers might aptly be termed epidemic pancreatitis. It attacks subjects of all ages, both sexes, and of all ranks in life. Females, especially those who suffer from constipation, are peculiarly liable to it. He gives the following description of the symptoms:—

“The attack is occasionally preceded by a feeling of lassitude or languor for a day or two, and a disinclination to make even slight exertion, but more frequently the onset is sudden, and characterised by a sense of shuddering down the back, sometimes amounting to a rigor, pyrexia, headache, sickness, pain in the abdomen or back, and distressing giddiness. In children the disease is often ushered in by convulsions.

“The temperature ranges usually from 100° F. to 104° F., the height seemingly being dependent upon the severity of the attack, although I have found the thermometer to register a subnormal temperature.

“The pulse is rapid, feeble, and often dicrotic, and always markedly compressible.

“The respiration is quickened, and frequently shallow and sighing.

“The appearance and feelings of the patient are those of severe illness. The complexion is sallow, with a circumscribed flush upon one or both cheeks, giving way to the most death-like pallor. The lips are dry, cracked, and bloodless. The tongue is large, flabby, and coated with a moist, white or buffy fur, except at the tip and edges, where it may be red and indented by the teeth. At times it is parched and brown, more particularly in the centre. Occasionally there is slight sore throat.

“The skin of the head and trunk is hot, dry, and harsh, subsequently being followed by a sour-smelling sweat, whilst the extremities are cold to the feelings of the patient and chilly to the touch. This chilliness is often replaced by heat. Many varieties of skin eruption may be present. Palpitation of the heart is a common symptom.

“The headache varies as to character and position. Generally it is described as if a constricting band were tightly tied around the forehead, by some as darting and shooting pains through the temples, by others as a sensation of great weight or pressure on the top of the head, whilst in many there is pain in the back of the neck, darting to the head.

"Sickness is usually present, but not invariably so. The retching and vomiting may be among the more urgent symptoms and most troublesome to treat, and these are often associated with nausea and flatulence. The vomit is usually yellowish or greenish in colour. Retching is in many instances followed by a considerable discharge of flatus, and when such occurs the headache is greatly relieved.

"There is frequently a troublesome cough, coming on in violent paroxysms and terminating in retching and prostration, but on examining the chest there is an absence of physical signs to account for it.

"The abdomen is usually full, particularly in the epigastric region, and uniformly resonant. There may be pain of a constricting, burning, or gnawing character, referred to the upper half of the abdomen. In many the most pain is situated in the back, this being increased by pressure on the upper part of the abdomen.

"There is enlargement of neither liver nor spleen. The attack is often ushered in by diarrhœa, but constipation is more commonly present. The state of the bowels, however, varies considerably, the one giving way to the other. The stools are usually greenish or greenish black, slimy, and particularly offensive. I have in no cases been able to detect the presence of fat. The stools are in no way characteristic of those of enteric, for which it may sometimes be probably mistaken.

"Giddiness is a constant symptom, and certainly one of the most distressing. This occurs on the slightest movement of the patient. It is most persistent, and remains after convalescence seems otherwise fairly established. There is great thirst. Epistaxis is occasionally present and usually profuse, coming on at the height of the attack. The urine is little in quantity, high in colour, and loaded with lithates, but, strange to say, within an hour or two the patient may pass large quantities of pale limpid urine, and this may be followed again, within a short period of time, by very scanty and concentrated urine. Hæmaturia has occurred in two cases. There is neither albumen nor sugar. The nervous symptoms are many. There is restlessness and inability to sleep. Sleep is disturbed by dreams, often of a distressing character, causing the patient to moan or start, as though some serious calamity were pending. Some feel drowsy, but are unable to close their eyes, for the moment they do so they have the sensation as though they were falling, whilst others are unable to lose themselves in sleep; in such, vision is often disturbed by imaginary creatures such as insects, reptiles, &c. Many will tell you that when the headache has entirely left them there still remains an indescribable feeling which is not pain, but a sensation as though they were going out of their minds. Such patients are afraid to be alone.

"Other nervous phenomena are often present, such as tinnitus aurium, loss of smell and taste, tingling and numbness of the extremities, and loss

of muscular power, sometimes attacking one side only, sometimes both. There is always great depression.

"Menstruation is much disturbed and often profuse. It frequently reappears when a patient is taken ill, although she may have menstruated only a week before, and have been previously quite regular. Girls seem liable to be attacked at the menstrual period, which may in consequence be associated with the various phases of hysteria. On the other hand, there seems to be no prejudicial influence exerted on the gravid uterus, pregnancy continuing without interruption to the full term. Labour in those actually suffering from the complaint appears to be unattended by any unfavourable complications."

The principal complications and sequelæ of the disease are pneumonic pleurisy, congestion and pulmonary œdema. In two cases phlebitis, involving the veins of the leg, occurred. Periostitis is an occasional complication. Hepatic derangement is common. Peritonitis occurs generally, but usually locally only. Anæmia and constipation are troublesome sequelæ, especially in infants.

In diagnosticating this disease the maladies most likely to be confounded with it are enteric fever, meningitis, acute tuberculosis, and gastritis. From the first of these diseases it may be discriminated by the absence of the characteristic eruption, stools, and temperature, and by the situation of the pain and tenderness. From meningitis, by the presence of abdominal pain and absence of optic neuritis. The author says that from gastritis it may be distinguished by the "total absence of gastric symptoms." If so, how can gastritis be one of the diseases with which it is most likely to be confounded?

#### PREVENTION OF PHTHISIS.

The following memorandum has been issued by the North Western Branch of the Society of Medical Officers of Health as to the prevention of phthisis:—

"1. It has been abundantly proved that 'phthisis' or 'consumption' is an infectious disease.

"2. It does not appear that this disease is very, if at all, infectious through the breath of a patient; but it is quite certain that it is infectious by means of the *sputum* (expectoration) which a sick person coughs up from his diseased lung.

"3. The means for preventing the spread of phthisis, therefore, from person to person, are made very simple by reason of the infective material being easily recognisable.

"4. The manner in which phthisis is usually spread from one person to another by means of the sputum is as follows:—

"(a.) A consumptive patient coughs up a quantity of sputum, in which are enormous numbers of the specific germs, *Bacilli tuberculosis*;

"(b.) The sputum lodges where it is spat on, and there dries;

"(c.) When dried, the sputum is usually pulverised and floats in the air as dust;

"(d.) The germs contained in the sputum, though dried, are still living, and able to infect the air in which they are suspended;

"(e.) The infected air when breathed is liable to cause phthisis. This is more particularly true of people who are already suffering from phthisis and whose recovery is thus prevented.

"5. All phthisical sputum must, therefore, be burned or efficiently disinfected if any decided measure is to be taken to prevent the spread of phthisis from person to person:—

"(a.) The sputum from consumptive people should be at once burned by being spat into the fire, or, better still, spat into a piece of paper or a rag, which should be at once burned;

"(b.) Sputum may, however, be spat into a glass or porcelain vessel containing a 15 per cent. solution of carbolic acid, or (if carbolic acid cannot be obtained) simply some water. The contents of this vessel should be emptied once a day into the sewer outside, after which the vessel should be washed with boiling water and recharged;

"(c.) All persons affected with a cough which has become chronic should, when attending a workshop, assembly, or church, spit into a hand-glass spittoon containing the aforementioned disinfecting solution. Such a spittoon may be conveniently attached to the person;

"(d.) No person suspected to have consumption should spit into a pocket-handkerchief, or into a rag, or on clothes, unless such be forthwith burned;

"(e.) No person, *whether consumptive or not*, should on any account spit on the floor or walls of any room, railway carriage, or public conveyance;

"(f.) The eating utensils of a person suffering from consumption should be kept separate from all eating utensils of other persons, and should be washed separately from others in boiling water as soon after their use as possible;

"(g.) The clothing of a consumptive person must be washed separately from the clothing of other persons;

"(h.) The bowel discharges of a consumptive person should be dis-

infected with the aforementioned solution (b), and soiled linen should be at once boiled;

“(i.) A consumptive patient should, as far as possible, occupy a separate room or rooms; and where this is not possible special care should be exercised in destroying the sputum and excreta of the patient;

“(j.) The furniture of a consumptive patient's room should be as simple and plain as possible, without fluting or carving which provide lodgment for dust; especially should hangings and unnecessary carpets and rugs be avoided;

“(k.) When it is settled that any member of a household is consumptive, the whole house should be at once thoroughly cleansed, including the walls and ceilings; the furniture and floors should be washed with water as near boiling temperature as possible and containing carbolic acid in the proportion of 4 table-spoonfuls to a gallon of water; the walls should be cleaned down with the crumb of bread, the ceilings whitewashed, and clothing and bedding disinfected by steam or by boiling as in the case of any one of the other infectious diseases;

“(l.) The walls, floors, and ceilings of the living and sleeping rooms of persons suffering from phthisis should be cleaned and disinfected in the foregoing manner once in every two months;

“(m.) The room or rooms of a consumptive patient should, in the event of death, be disinfected as after death from one of the infectious diseases.

“6. There are several further practical measures which may be taken to prevent the contraction of the disease, and which are not difficult to carry out:—

“(a.) A mother who is suffering from consumption should on no account be allowed to suckle her child;

“(b.) All cow's milk, *especially that for the use of children*, should be thoroughly boiled before being drunk. There is no sort of legitimate doubt that tuberculosis in children is largely caused by the use of unboiled milk from consumptive cows. There is no truth in the belief that boiled milk loses its strength or is less digestible;

“(c.) All meat should be thoroughly well cooked, and not be eaten underdone;

“(d.) The lungs of all people should be more thought of and cared for by themselves than is at all common at the present time;

“(e.) The dwellings of all people should be well and freely ventilated at least once in every day, and all dark corners and recesses therein should be kept scrupulously clean;

“(f.) The lungs of all persons should be specially protected from

the bad influence inseparable from damp and overcrowded dwellings, and from dusty occupations.

“(g.) Some household pets (for example, cats) are susceptible of tuberculosis, and if suffering from any chronic disease should be destroyed.

“7. If the general public, and those who are sufferers from phthisis, would undertake to put the foregoing advice into actual practice, there can be no question but that there would in the next few years be a marked decrease in the fatality from phthisis in this country. Moreover, as it has been shown that phthisis, in its less advanced stages, is a curable disease, there is every encouragement to adopt these protective and hygienic measures for the benefit of a patient suffering from the disease.”

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#### THE ITALIAN PHARMACOPŒIA.

AFTER six years' labour the Committee appointed for producing a National Pharmacopœia for Italy have completed their labours, and the *Pharmacopœia Ufficiale del Regno d'Italia* is published. MM. Professor Moleschott, G. Cocconi, A. Corradi, L. Guareschi, C. Tacconis, D. Vitali, and L. de Cesaris formed the committee of publication. Professor Moleschott was appointed president and L. de Cesaris secretary. The book consists of 443 large octavo pages. The formulæ, which number 600, are given in Italian, and are classified as follows:—Chemical preparations, 200; Galenical, 230; crude products, 170. The Italian, Latin, and chemical names of chemical preparations are given in the order named, *e.g.*—Acide benzoïque, acidum benzoicum, acide benzolmonocarbonique. Tests for the purity and strength of the preparation given are simple and practical. The minimum amount of the active principle in such products as cinchona, belladonna, aconite, and so forth, is stated. Amongst the new remedies included in the list are—Acetanilide, antipyrine, camphre monobrome, eau oxygénée, guaiacol, iodol, lanoline, menthol, phénacétine, quebracho, sulphonol, thymol, and vaseline.

#### MERCURY.

MERCURY is now being produced in the Caucasian provinces of Russia. Each year the mines are said to produce 320,000 kilogrammes of pure mercury.

#### ODOZONE.

At the meeting of the *Académie des Sciences* on the 21st of March, M. Robin described iodozone, a liquid compound, produced by the combination of iodine and ozone. It is a clear, innocuous liquid, void of any irritating properties; a powerful disinfectant; forms a useful application to ulcers, and may be used as a mouth wash.



# JOHNSON'S



## SULPHUR FUMIGATOR

Adopted by the Sanitary Authorities of Great Britain.

For fumigating infected rooms after Diphtheria, Typhoid Fever, Small Pox, Scarlet Fever, and other contagious diseases.

Destroys Disease Germs in cellars, outhouses, &c.

Kills flies, mosquitos, roaches and other insect pests.

Destroys noxious vapours from sewers, &c.

By the use of these fumigators a safe and convenient mode of burning sulphur indoors is provided.

One Fumigator will burn two hours and is sufficient for an ordinary sized room.

### JOHNSON'S FUMIGATOR

Is put up in a specially prepared **FIREPROOF BOX**, and will not burn nor become red hot like tin or other metal packages.

#### DIRECTIONS.

Light the round wick in centre of Fumigator, stand it in an earthenware dish to prevent burning carpet or floor.

To extinguish flame, cover top with flat board or dish to exclude the air.

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Can be had from all Chemists and Druggists.

**JOHNSON & JOHNSON, LTD.,**  
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# THE HISTORY OF THE CITY OF BOSTON

FROM THE FIRST SETTLEMENT  
TO THE PRESENT TIME

By SAMUEL JOHNSON, Esq.  
of the Middle Temple, Barrister at Law.  
In two Volumes.  
LONDON: Printed by J. DODD, in Pall-mall, 1790.

The first settlement of the English in Boston was in the year 1630, when a company of Puritans, led by John Winthrop, sailed from England, and landed at Boston. They were followed by other settlers, and the city grew rapidly. In 1639, the first town meeting was held, and the city was incorporated as a town. In 1644, the city was incorporated as a city. The city has since grown into one of the largest and most important cities in the United States. It has been the site of many important events, including the Boston Tea Party, the American Revolution, and the Civil War. The city is also known for its many historic landmarks, including the Freedom Trail and the Old State House.

## PART IV.

### MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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### CLINICAL RECORDS.

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*Case of Myxædema treated by Injection of Sheep's Thyroid at Mentone.*

By J. K. BARTON, M.D., F.R.C.S.I.

A LADY, aged fifty-eight, married, no family, is affected with many symptoms of myxædema, for which she has been under the treatment of a distinguished London physician. He prescribed phosphorus internally and sent her out of England to avoid the cold of our winter. She came to Mentone, and for the past six weeks has been taking phosphorus without any good effect.

Her appearance is characteristic, lips thick, nose also, eyelids puckered, cheeks puffy, hands greatly swollen, and lately very prone to slight suppurations. Her fingers have increased so much in size that she has been obliged to have her rings enlarged three times. Her feet are also so much swollen that she now requires boots two sizes larger than was her custom when well.

The history of her ailment is as follows:—Three years ago she had a great sorrow; then for the first time she found her feet and ankles were swollen in a peculiar way, *not* pitting on the pressure of the finger. It was a year after this, that is two years ago, that her face became remarkable, specially the upper lips and cheeks, and simultaneously she found her strength failing. She had previously always enjoyed good health and good spirits, which are changed to a most painful depression, and a strange apathy comes over her, depriving her of the wish to do anything. Two years ago, her husband, finding these symptoms continuing, consulted a London physician, who called the disease gout, and prescribed accordingly, but without any good effect. Soon after, the patient had a severe attack of influenza, which caused great debility. She went out too soon, got a shivering, which was followed by an abscess in her neck; her tongue and throat became so greatly swollen as

to cause a feeling of choking and great difficulty of swallowing and indeed of speaking. A surgeon having been called in opened the abscess. He inserted a drainage tube, which was left *in situ* for several weeks. The myxœdematous symptoms seem to have become more pronounced after this, and she was sent to the South of France.

Thursday, Jan. 26, 1893.—The first injection of extract of sheep's thyroid was given this day, in the right shoulder. The fluid was perfectly clear, supplied by a French chemist of Lyons. It gave no burning or pain. The patient was directed to remain quietly on the sofa in her room for the rest of the day. Evening temp., 97° F.; no pain or uneasiness whatever.

Sat., 28.—Second injection was given below scapula. I cannot trace any symptoms to the injection. The patient seems just the same, but complains of a disagreeable feeling of faintness, lasting for only a few seconds, but she has suffered from that *before* I began the treatment. In all other respects she continues as before very depressed and bothered.

Mon., Jan. 30.—Third injection. Patient feels better; but, as yet, I do not see any very decided effects produced by the treatment, nor have the injections had any local or general ill-effects.

Feb. 1.—Fourth injection. The first made with the extract obtained from Brady and Martin, of Newcastle-on-Tyne. I injected 15 drops; a burning feeling was immediately complained of, followed by a throbbing pain and soreness. In afternoon patient said the soreness is less; it is quite bearable. Will it gather into an abscess? But she slept well during the following night, and reported herself quite free of soreness or pain next morning.

Feb. 3.—Fifth injection. No soreness from this.

Feb. 5.—Sixth injection. Made with the extract from Lyons. No soreness. All symptoms improving, except deafness and a numb feeling about the head.

Feb. 7.—Seventh injection.

Feb. 9.—Eighth injection. The deafness and occasional faint feeling remain, thickness of tongue better or gone, speech clearer. Feels weak. I order 3 grs. of lactate of iron, and gr.  $\frac{1}{60}$  of arsenious acid twice a day.

Feb. 11.—Ninth injection. All signs of myxœdema disappearing satisfactorily.

Feb. 13 and 15.—Tenth and eleventh injections. The extract which I had from Lyons was now used up, and the supply from Brady and Martin, ordered some days ago, had not arrived. So no further injection was given until the 21st February; thus a week elapsed without the extract being used. No ill effects could be perceived.

Feb. 21.—Twelfth injection. The French extract was again injected.

Feb. 23rd.—Thirteenth injection. The English extract, prepared by Brady and Martin, was used. It gave rather more pain than the French.

Feb. 25.—Fourteenth injection. The French extract was again injected.

In conversing with the patient and with her sister I see clearly that she had fallen back somewhat during the week the remedy had been stopped. The chief symptom of this was a sort of megrim in her head; she felt sick and rather faint. This has come several times in the day lately. She says the duration of these feelings is less than it used to be, but it is too frequent. No injection for three days.

Feb. 28.—Fifteenth injection. 'Three days' interval. The English extract was injected. In reply to queries, the patient gave me to understand that she felt *much* better, and only hesitated to say she was quite well on account of the disagreeable feeling she has had sometimes in her head. The needle gave sharp pain to-day, and for a minute the patient was faint.

March 2.—Sixteenth injection.

March 5.—Seventeenth injection. Patient says she feels much better now than when she came to Mentone, and feels quite different; that before she used to feel a curious kind of film round her head and ears, making her feel most stupid. This has quite gone.

March 8.—Eighteenth injection. The French injection was given; on the 9th and 10th, patient had several faint feelings, coming on and going off for hours. She became greatly depressed, the other and more characteristic symptoms were not at all present.

March 11.—Nineteenth injection. The English injection was used. Patient better; in good spirits.

March 14.—Twentieth injection. English extract given.

March 17.—Twenty-first injection. French extract given. Very good report. No faintness; deafness seems gone.

March 20.—Twenty-second injection. I injected French extract.

The last injection (twenty-third) was given on March 30. Her condition upon leaving Mentone was in all respects satisfactory.

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#### GASTRO-ENTEROSTOMY.

H. TUHOLSKE, M.D., records (*Medical News*, Philadelphia) a case of pyloric obstruction treated by forming an anastomosis between the duodenum and the stomach, and removing the tumour. Seven months afterwards the patient died from epidemic diarrhœa; the opening between the stomach and the bowel had become very small, only allowing the passage of a lead pencil.

## ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—GEORGE H. KIDD, M.D., F.R.C.S.I.

General Secretary—W. THOMSON, F.R.C.S.I.

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### SECTION OF ANATOMY AND PHYSIOLOGY.

President—HUMPHREY J. BROOMFIELD, F.R.C.S.I.

Sectional Secretary—A. BIRMINGHAM, M.D.

*Thursday, March 16, 1893.*

The PRESIDENT in the Chair.

The SECRETARY read a communication from the Secretary of the International Medical Congress inviting members to attend and to contribute papers.

#### *Exhibits.*

PROFESSOR FRASER exhibited photographic enlargements of several sections of the adult and other mammalian brains, showing, among other details, the course of the various tracts of the white fibres, &c.

The PRESIDENT said the Academy ought to be very much indebted to Professor Fraser for those entertaining specimens, and for the enormous amount of labour which he has bestowed on them. He hoped that Professor Fraser would again bring this subject under their notice in a practical way. He thought that the Academy and science at large would be indebted to him for this labour and thought, which very few men would have either the skill or the determination to execute.

DR. W. H. THOMPSON made a communication on the physiological action of atropin and morphia on the secretion of urine, in which he detailed the results of a series of experiments carried out by him in Professor Ludwig's laboratory, with the object of discovering the action of the two drugs mentioned on the secretion of urine in dogs.

DR. PURSER said he could not quite see that morphin would diminish the blood-pressure so markedly. He saw cases of animals poisoned with morphin and the blood-pressure was remarkably high. He made experiments himself on morphin poisoning in rabbits, and found the blood-pressure in the carotids to be 200 mm. of mercury. He thought the Academy was greatly indebted to Dr. Thompson, his experiments and results were a further proof of the importance of the cells of the kidney in the secretion of urine, and they showed that it is not a mere filtration that takes place.

DR. THOMPSON agreed with Dr. Purser that 200 mm. of mercury was very high for a rabbit's blood-pressure. He found, however, in one experiment that the pressure fell from 116 mm. to 30, and subsequently rose until it reached a point equal to 116 mm. This occurred in three consecutive experiments.

*Law of Transverse Vibrations of Strings applied to the Human Larynx.*

DR. ROBERT H. WOODS read a paper on the "Law of Transverse Vibrations of Strings applied to the Human Larynx." Having shown that the mechanism of voice production must be obedient to the law

$$n = \frac{1}{2l} \sqrt{\frac{t}{m}}$$

where  $n$  is the number of vibrations per second,  $l$  the length of the chords,  $t$  their tension, and  $m$  the mass per unit of length, the author went on to say that if the tension alone modifies the pitch it must increase enormously quicker than the rate of vibration. Thus, the tension required in order that the voice may emit a note an octave above a given one will not be in proportion to their rates of vibration, which is 2:1, but in the squares of that ratio, or 4:1, and similarly for a two octaves' interval the tension ratio will be 16:1, for three octaves 64:1—showing that a limit is very rapidly put on the pitch and the necessity for the introduction of other modifying factors.

The function of the thyro-arytænoideus internus was discussed, and the conclusion arrived at that it was not a relaxer of the vocal chords, as maintained by Grützen ("Hermann's Handbuch") and others, but a tensor, and that its external vertical irregular fibres had for their function the fixing of the outer part of the chord, thus damping the vibrations of that part, reducing the vibrating mass of the chord, and so, as seen by the formula, raising the note.

The depth of the voice in pathological conditions where the chords were thickened was referred to and shown to be due to the increase of the mass per unit of length.

The PRESIDENT said they were all much indebted to Dr. Woods for his paper, which was a subject which he (the President) considered most interesting and full of subject for thought. He considered Dr. Woods had made most of his points very clear and had brought forward much original and ingenious matter. He, however, wished to question one point—viz., that the crico-arytænoidei laterales tensified the vocal chords and thus raised the pitch of the note. Of course, if this movement of the anterior points of the arytenoids could continue still further in an inward and backward direction after the vocal process had been rotated in, Dr. Woods' contention would hold good.

DR. BIRMINGHAM said it was new to him to hear that the internal part of the thyro-arytenoid might be looked upon as a tensor. He

found it hard to agree with the idea of Dr. Woods as to the function of the muscle. When a muscle contracts it increases in thickness, consequently when the internal thyro-arytenoid contracts it makes that portion of the cord in which it lies more bulky. He looked upon the muscle as being of use in modifying the prominence and consistency of the chord, and he thought it was of no great use as a relaxer. According to Dr. Woods, the internal portion of the thyro-arytenoid would contract during the production of a high note while the external portion contracted in producing a low note, so that the two portions of the muscle would be acting in direct opposition to one another, which, at first sight, is contrary to all our ideas.

Dr. Woods, in reply, said that it is only when the chords have a very high tension that the crico-arytænoidei laterales have a double action. It was well known that when a singer tried to sing an unusually high note it was impossible to bring it out with softness, because when the singer is fairly high up the tendency is to press the arytenoids tighter together and to make it more difficult to open the glottis, and, therefore, a greater exertion is required. With regard to Professor Birmingham's point, he (Dr. Woods) thought that the object of the internal portion of the thyro-arytenoids contracting was not to approximate the points of origin and insertion but for the purpose of increasing its own tension. Simultaneously with this contraction they had the contraction of the crico-thyroid, which must help to keep away origin from insertion. Therefore they must come to the conclusion that the different fibres of the internal portion of the muscle must have opposing functions just as those of the gluteus medius have.

The Section then adjourned.

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## SECTION OF PATHOLOGY.

President—C. J. NIXON, M.D.

Sectional Secretary—J. B. STORY, F.R.C.S.I.

*Friday, March 24, 1893.*

The PRESIDENT in the Chair.

### *Case of Molluscum Dermatolyticum.*

DR. O'CARROLL showed a girl, aged twenty, the subject of multiple molluscum fibrosum on the trunk with a dermatolytic patch of molluscum occupying the right side of head as high as about an inch above the ear, the right cheek in its lower portion, and the right side of the neck. The skin here is in folds, which hang down one over the other, and which have grown much, apparently as a consequence of their weight,



during the last five years, though the original condition is congenital. The whole patch is of a brownish tint, shading more or less towards red, with variations in the quantity of blood in the part; thus, the more dependent folds are redder than the upper ones, and the upper border of the patch shows the pigment colour unmixed with that due to the blood supply.

DR. McWEENEY suggested that one of the small tumours should be removed from the body and be subjected to microscopic examination, with a view to ascertain were there any parasitic protozoa present.

DR. O'CARROLL said he would be glad to have one examined.

*Dur Hæmatoma, associated with Jacksonian Epilepsy.*

BY DRs. EUSTACE AND PARSONS.

Mr. X—, aged twenty-eight, unmarried, farmer. Admitted to Hampstead Asylum, September, 1888. No family history of insanity, except that mother's brother had syphilitic general paralysis. Family, however, neurotic. Had blow on head, but account vague. Suffered from *petit mal* for year before admission. Was engaged to be married, and a week before coming in began to design magnificent house, grounds, &c., for his intended. Tried to stab his sister with pruning-knife.

On admission, was happy, garrulous and boastful, but was well enough to ride and drive without attendant. This was soon discontinued owing to some attacks of *petit mal*. Two months after had convulsive seizure without premonitory systems, affecting *left* side most, and this side became bloodless, cold and paralysed in comatose stage, though temperature rose to 101°. These attacks were occasionally repeated during next two years, and symptoms of flushing, tremor and anxiety also set in. The eyes appeared normal when examined. The fits were thought by patient to be often prevented by taking antipyrin, or tying string round wrist.

The noticeable points about the fits were:—(1.) Premonitory stage 5–10 minutes. Sometimes no attack followed. Twitching began in *left* side. (2.) Convulsive stage 2–20 minutes, varying also in intensity. Deviation of eyes to *left*, (3.) Postparoxysmal stage  $\frac{1}{2}$ –2 hours. Patient was weak-minded, but had no delusions at this time, but when sent home became dangerously violent.

About two years after admission had slight general attack, after which *right* side was paralysed for about half an hour. This was repeated with the addition of temporary aphasia next day, followed by rise of temperature and pulse-rate and lapse into very serious typhoid state, from which he rallied later.

Gradually he became more and more demented, and sometimes maniacal, wet and dirty in habits. There were paresis, slurring speech,

spastic myosis, exaggerated reflexes, incontinence of urine and fæces. Trismus followed his epileptic seizures, and on several occasions he sank into the status epilepticus.

During last two months of life was completely paralysed, confined to bed, and suffered from bed-sores. Finally died of pneumonia on July 30th, 1892.

*Post-mortem* a pachymeningitis was found extending over left cerebral hemisphere and a large semi-fluid tumour over right, between dura and arachnoid. The brain was much flattened on right side, and softened, but pia was not adherent as in general paralysis, nor were there granules in 4th ventricle.

5 oz. of flaky fluid between brain and meninges.

Contents of skull weighed 49 oz.

Tumour alone 7 oz.

Dr. Parsons states that the skull-cap was detached without any unusual difficulty from the dura mater, and on examination presented no abnormal features; there was no indication whatever of traumatism. The external surface of the dura was apparently quite normal, but on reflecting the dura mater it was found to carry on its under surface a membrane almost entirely covering the convexity of the brain, but not extending into the longitudinal fissure or to the bone. On the left side the membrane varied in thickness from one-sixteenth to one-eighth of an inch, and was practically non-adherent to the dura. On the right side, over the frontal and occipital lobes, the membrane was exceedingly thin, and was readily detached from the dura, showing apparently the normal endothelial surface of the latter, but as the portion covering the parietal lobe was reached the membrane increased in thickness and strength, and required somewhat more force to detach it. Directly over the parietal lobe it presented the appearance of a reddish-coloured tumour, about three-quarters of an inch in maximal thickness, and thinning away towards the edges. It was soft in consistence, and contained a quantity of fluid blood. Its pressure had produced considerable flattening of the parietal convolutions. The pia-arachnoid stripped off readily from the brain without carrying any brain substance on its under surface. The theories put forward to explain this rare condition were enumerated, and it was thought that the appearance presented by this case supported Huguenin's rather than Virchow's view. The early age at which this condition proved fatal, and the absence of the *post-mortem* appearance usually present in cases of general paralysis of the insane, were mentioned as enhancing the rarity of the specimen.

DR. BENNETT thought it was very important that the prevalent opinion that these tumours were of frequent occurrence after traumatism should be contradicted. The erroneous statements present in text-books originated in Prescott Hewett's account of the disease in "Holmes' Surgery."

*Case of Pachymeningitis depending on Ear Disease.*

DR. O'CARROLL showed a specimen of pachymeningitis with the following history, based on the statements of the patient and of his parents :—A boy, ten years of age, well developed, had nine months ago for the first time epileptiform attacks. They were confined to the left side, were short in duration, and were not accompanied by stupor, although there was often some short unconsciousness. He came to hospital for facial erysipelas which had manifested itself three days before. He died by progressive asthenia, it seemed, four days later, being conscious up to a few minutes before death. While in hospital he had been seen to suffer contractions of the left side of his face. There was no history of injury to account for the erysipelas ; there was no discharge from the ears ; nor from the patient or his friends could any account of ear-trouble or of conditions likely to lead to ear-mischief be elicited.

*Post-mortem*—The dura mater over the parietal and adjacent portions of the right convexity of the brain was found to be much thickened, and bound down to the other meninges and the cortex by a dense structureless material in which patches recognisable as caseated pus still persisted. There was no sign of any fresh intracranial trouble which could be attributed to or associated with the erysipelas. The right middle ear was found full of pus, the left tympanum normal. The liver showed typical amyloid degeneration, the other organs similarly but in less degree. The pathological history of the case seems, therefore, to have proceeded in this order : purulent catarrh of right middle ear, extension of the process to the dura mater, with purulent effusion on its inner aspect, limitation of the original pachymeningitis, and subsequent caseation and absorption of pus with concomitant lardaceous degeneration of liver and other organs, erysipelas, asthenia, death. The main points of interest seem to be a pathological one and a clinical one. Pathologically it is of interest that a purulent effusion should be so limited, so absorbable, and should show so little tendency to further infectiveness. The main question clinically would seem to be the cause of the epileptiform attacks. Dr. O'Carroll was inclined to believe that they depended on cicatricial strains on the cortex rather than on any directly irritative effect of the pus or dural thickening.

The PRESIDENT read a paper on Coma in Typhoid Fever.

DR. M'WEENEY suggested that the pathology of this case might depend on the absorption of poisonous substances from the intestine, causing a disturbance of the heat-regulating centre. There was no doubt that the patient had typhoid fever, and this disturbance does take place in that disease.

The following papers were read :—

DR. M'WEENEY : Tubercular Tumours of Brain.

The PRESIDENT : A Case of Aortic Patency.

DR. MC'CULLAGH: Fusion of Tibia and Fibula; Congenital Malformation.

The Section then adjourned.

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## SECTION OF MEDICINE.

President—WALTER G. SMITH, M.D.; President of the Royal College of Physicians of Ireland.

Sectional Secretary—A. N. MONTGOMERY, M.R.C.P.I.

*Friday, April 17, 1893.*

DR. J. M. FINNY in the Chair.

### *Blood-poisoning following Extraction of a Molar Tooth.*

MR. BURGESS read a paper on a Case of Blood-poisoning following the Extraction of a Molar Tooth. [It will be found at page 380.]

DR. ARTHUR BAKER said he could remember similar consequences following a difficult extraction, and also one in which no difficulty was met, though the cases are of extreme rarity. It is very difficult to give relief. An incision seldom gives vent to any amount of pus. The socket is generally filled with dark-coloured slough, and by clearing it out, syringing, and then insufflating some iodoform, and finally putting in a plug of wool relief is obtained.

DR. LITTLE said that some years ago he saw a young man who was feverish and ill some ten days after the extraction of an upper molar. Up to the removal of the tooth he was, in his own opinion and in that of his uncle, in perfect health. Gradually active lung mischief developed, and he shortly died with all the symptoms and physical signs of acute phthisis.

SIR WILLIAM STOKES said he was reminded of the case of the late Dr. Thomas Beatty, who suffered from acute pain in his teeth, and persuaded a dentist against his better judgment to withdraw one of the teeth. Pyæmia rapidly set in, and he died in a few days. He probably suffered from some gouty osteitis.

DR. J. MARSHALL DAY said that he had met a case of an old woman, one of whose teeth was extracted, and who in three days returned to the hospital with tetanic symptoms. She had trismus, and recovery was tedious.

MR. BURGESS, in reply, said that his patient for about a month previous to the extraction of his tooth was in a low condition of health. The symptoms became acute just after the extraction of the tooth.

*A Case of Myxædema.*

DR. WALLACE BEATTY gave an account of a case of myxædema which had been under his care. [The Paper will be found at page 375.]

*A Case of Myxædema treated by Thyroid Juice.*

DR. LITTLE read an account of a case of myxædema treated at first by the hypodermic injection and subsequently by the internal administration of thyroid juice.

DR. J. A. SCOTT, described the manner in which he prepared the extract for Dr. Little. He stated that the main point to be attended to was the absolute sterilisation of everything. He touched neither the blades of his instruments nor the thyroid bodies with his hands. In the sheep the thyroid bodies are usually very small and resemble an inch and a half cut off a lead pencil. On removal from the body of the sheep they were minced up on a board which was soaked in corrosive sublimate and then washed with phenol. They were then transferred to a sterilised glass capsule and brought from the abattoir and put into sterilised test-tubes and covered with equal parts of glycerine and a half per cent. solution of phenol. This extracted something in twenty-four hours, but not by any means all that might be obtained. A sterilised piece of linen was then placed in the cylinder of a syringe, the contents of the test-tube poured in, and the piston forced down. Whatever was squeezed out was collected in a bottle. It seemed to him very important to sterilise the skin of the patient also when injections of albuminous substances were made.

DR. HAWTREY BENSON related the case of a lady, aged fifty, suffering from myxædema, who refused to undergo the hypodermic injection of thyroid extract, and whom he treated successfully with the administration of the extract by the mouth. He first prescribed ten minims twice a day in water between meals, and persevered with this for three weeks without apparent change. The dose was then raised to fifteen minims, and a marked improvement took place, and she got perfectly well. She now takes eight minims in water once a day. She had been suffering from the disease for eight years previously. He thought that this case showed that all cases of myxædema should be treated by the administration of the drug by the mouth before hypodermic injection was resorted to.

DR. FALKNER suggested trying the thyroid of a pig.

DR. J. W. MOORE stated that five-grain tabloids of the dried extract of the entire gland were now prepared by Burroughs, Wellcome & Co., and had been successfully used. They were pleasant to the taste and a very suitable form for administration.

DR. DAWSON asked would it be possible to prepare the extract without adopting antiseptic measures in its preparation and afterwards sterilise the extract.

DR. ATTHILL thought the thigh was the proper place to inject the fluid into subcutaneously.

SIR WILLIAM STOKES recorded a case in which myxœdema developed in four weeks after the complete removal of the thyroid ending fatally; and he asked would injection be a suitable treatment to employ in these surgical cases.

DR. WALLACE BEATTY said that in his first case the extract was prepared and the first injection made by Dr. Purser. He and Dr. Purser had followed the directions given by Dr. Murray of Newcastle-on-Tyne in the preparation of it. He thought that administration of the extract would be a very suitable means of treatment in cases such as Sir William Stokes mentioned.

DR. LITTLE briefly replied.

DR. SCOTT replied to Dr. Dawson, stating that he had made experiments with that view, but had found that the extract became solid, and could not be got into or out of a hypodermic syringe.

The Section then adjourned.

#### THE KEELEY GOLD CURE.

C. F. CHAPMAN, M.D. (*Chicago Medical Recorder*, February, 1893), who, for the sake of information, acted for some time as physician to a Gold Cure Sanitarium, describes the composition of the fluids (of which strychnin is the active agent) used, and the methods adopted. The formula for the "tonic" is nearly as complicated as that of chlorodyne. Chloride of gold and sodium, strychnia, and atropia, are all present. The "injection" contains strychnia, with permanganate of potash "to colour," a little gold solution being added in the sight of the patient for the sake of the moral effect produced. The disgust to drink is thus managed:—A drink of whisky is given, and the "gold" is at the same time injected, but without telling the patient  $\frac{1}{10}$  gr. apomorphin is added to the injection. "More or less violent emesis is produced, and the patient soon associating the intaking of the whisky with the subsequent disagreeable vomiting, acquires a positive disgust for the liquor, and is not able to keep any on his stomach."

#### CACTUS GRANDIFLORA.

CACTUS GRANDIFLORA is recommended in all heart cases of diminished ventricular force; in cases of tobacco, tea, alcoholic, or morphin poisoning; and, lastly, in such heart cases as contra-indicate the use of digitalis. It stimulates the intra-cardiac ganglia and the accelerator nerves. Under its influence arterial tension is markedly increased, and the duration of the diastole diminished.—*Les Nouveaux Remèdes*, No. 12.

## SANITARY AND METEOROLOGICAL NOTES.

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### VITAL STATISTICS

*For four Weeks ending Saturday, March 25, 1893.*

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

| TOWNS     | Weeks ending |           |           |           | TOWNS       | Weeks ending |           |           |           |
|-----------|--------------|-----------|-----------|-----------|-------------|--------------|-----------|-----------|-----------|
|           | March 4.     | March 11. | March 18. | March 25. |             | March 4.     | March 11. | March 18. | March 25. |
| Armagh -  | 21·0         | 21·0      | 14·0      | 14·0      | Limerick -  | 25·3         | 18·2      | 19·6      | 28·1      |
| Belfast - | 27·5         | 25·2      | 22·6      | 24·0      | Lisburn -   | 12·8         | 8·5       | 8·5       | 12·8      |
| Cork -    | 25·6         | 31·1      | 27·0      | 30·5      | Londonderry | 20·4         | 23·6      | 18·8      | 18·8      |
| Drogheda  | 26·4         | 22·0      | 22·0      | 22·0      | Lurgan -    | 22·8         | 22·8      | 27·4      | 27·4      |
| Dublin -  | 27·0         | 23·7      | 24·9      | 24·5      | Newry -     | 20·1         | 24·1      | 20·1      | 24·1      |
| Dundalk-  | 0·0          | 33·5      | 4·2       | 37·7      | Sligo -     | 15·2         | 25·4      | 10·2      | 20·3      |
| Galway -  | 26·4         | 18·9      | 7·6       | 41·5      | Waterford - | 32·5         | 32·5      | 12·5      | 35·0      |
| Kilkenny  | 18·9         | 37·8      | 28·3      | 23·6      | Wexford -   | 18·1         | 36·1      | 22·6      | 22·6      |

In the week ending Saturday, March 4, 1893, the mortality in thirty-three large English towns, including London (in which the rate was 20·8), was equal to an average annual death-rate of 20·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 23·2 per 1,000. In Glasgow the rate was 26·7, and in Edinburgh it was 14·2.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 25·7 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in eleven of the districts to 7·5 in Waterford—the 13 deaths from all causes registered in that district comprising 1 from typhus and 2 from whooping-cough. Among the 140 deaths from all causes registered in Belfast are 2 from measles, 1 from scarlatina, 1 from typhus, 5 from

whooping-cough, 2 from enteric fever, and 3 from diarrhœa. The 13 deaths in Londonderry comprise 1 from measles and 1 from whooping-cough. The Registrar of Lisburn District remarks—"Two new cases of small-pox during week".

In the Dublin Registration District the registered births amounted to 234—124 boys and 110 girls; and the registered deaths to 186—88 males and 98 females.

The deaths, which are 18 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 27·7 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 27·0 per 1,000. During the first nine weeks of the current year the death-rate averaged 28·9, and was 4·2 under the mean rate in the corresponding period of the ten years, 1883-1892.

The number of deaths from zymotic diseases registered was 20, being 12 over the low number for the week ended February 25, but 2 under the average for the 9th week of the last ten years. They comprise 1 from typhus, 5 from whooping-cough, 1 from ill-defined fever, 4 from enteric fever, 2 from diarrhœa, and 1 from erysipelas.

The number of cases of enteric fever admitted to hospital during the week was 13, being 3 over the admissions for the preceding week. Twenty-three enteric fever patients were discharged, 1 patient died and 82 cases remained under treatment on Saturday, being 11 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 9 cases of scarlatina (being a decline of 4 as compared with the admissions for the preceding week), and 3 of typhus: 6½ cases of the former and 6 of the latter disease remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered was 36, being 10 below the number for the preceding week, and 13 under the average for the ninth week of the last ten years. The 36 deaths comprise 22 from bronchitis, 5 from pneumonia or inflammation of the lungs, and 2 from pleurisy.

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In the week ending Saturday, March 11, the mortality in thirty-three large English towns, including London (in which the rate was 19·1), was equal to an average annual death-rate of 19·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·3 per 1,000. In Glasgow the rate was 25·5, and in Edinburgh it was 13·8.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·9 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts



were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in ten of the districts to 4·4 in Drogheda—the 5 deaths from all causes registered in that district comprising 1 from simple continued fever. Among the 128 deaths from all causes registered in Belfast are 3 from measles, 1 from typhus, 3 from whooping-cough, 4 from diphtheria, 1 from enteric fever, and 3 from diarrhœa. The 45 deaths in Cork comprise 2 from enteric fever.

In the Dublin Registration District the registered births amounted to 189—102 boys and 87 girls; and the registered deaths to 169—89 males and 80 females.

The deaths, which are 53 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25·2 in every 1,000 of the population. Omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the district, the rate was 23·7 per 1,000. During the first ten weeks of the current year the death-rate averaged 28·5, and was 4·6 under the mean rate in the corresponding period of the ten years, 1883–1892.

Only 15 deaths from zymotic diseases were registered, being 5 under the number for the week ended March 4, and 9 below the average for the 10th week of the last ten years. They comprise 1 from measles, 1 from scarlet fever (scarlatina), 1 from influenza, 1 from whooping-cough, 1 from diphtheria, and 6 from enteric fever.

The number of cases of enteric fever admitted to hospital was 10, being 3 under the admissions for the preceding week. Sixteen enteric fever patients were discharged, 1 patient died, and 75 cases remained under treatment on Saturday, being 7 below the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 12 cases of scarlatina (being an increase of 3 as compared with the admissions for the preceding week). No case of typhus was received. Sixty-nine cases of scarlatina and 5 of typhus remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had fallen from 46 for the week ended February 25 to 36 for the following week, further declined to 25, or 29 under the average for the corresponding week of the last ten years. The 25 deaths comprise 15 from bronchitis, 7 from pneumonia or inflammation of the lungs, and 1 from pleurisy.

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In the week ending Saturday, March 18, the mortality in thirty-three large English towns, including London (in which the rate was 19·1), was equal to an average annual death-rate of 19·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·2 per 1,000. In Glasgow the rate was 23·5, and in Edinburgh it was 16·7.

The average annual death-rate represented by the deaths registered in

the sixteen principal town districts of Ireland was 22·6 per 1,000 of the population based on the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·7 per 1,000, the rates varying from 0·0 in twelve of the districts to 5·0 in Waterford—the 5 deaths from all causes registered in that district comprising 1 from whooping-cough and diarrhœa. Among the 115 deaths from all causes registered in Belfast are 2 from measles, 2 from scarlatina, 3 from whooping-cough, 3 from diphtheria, 1 from simple-continued fever, and 4 from diarrhœa.

In the Dublin Registration District the registered births amounted to 174—92 boys and 82 girls; and the registered deaths to 174—85 males and 89 females.

The deaths, which are 40 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 26·0 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 24·9 per 1,000. During the first eleven weeks of the current year the death-rate averaged 28·3, and was 4·7 under the mean rate in the corresponding period of the ten years 1883-1892.

The number of deaths from zymotic diseases registered is 21, being 6 over the number for the week ended March 11, but 1 under the average for the 11th week of the last ten years. The 21 deaths comprise 2 from measles, 1 from scarlet fever (scarlatina), 1 from influenza, 4 from whooping-cough, 1 from diphtheria, 3 from enteric fever, 1 from dysentery and 3 from erysipelas.

Ten cases of enteric fever were admitted to hospital, a number which was equal to the admissions for the preceding week. Thirteen enteric fever patients were discharged and 72 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week.

The hospital admissions include, also, 6 cases of scarlatina (being a decrease of 6 as compared with the admissions for the preceding week), and 2 of typhus: 69 cases of the former and 4 of the latter disease remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had fallen from 36 for the week ended March 4 to 25 for the following week, rose to 28, but this number is 23 below the average for the corresponding week of the last ten years. The 28 deaths comprise 13 from bronchitis, 12 from pneumonia or inflammation of the lungs, 1 from croup, and 1 from pleurisy.

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In the week ending Saturday, March 25, the mortality in thirty-three large English towns, including London (in which the rate was 20·7), was equal to an average annual death-rate of 20·9 per 1,000

persons living. The average rate for eight principal towns of Scotland was 23·4 per 1,000. In Glasgow the rate was 27·3, and in Edinburgh it was 20·6.

The average annual death-rate in the sixteen principal town districts of Ireland was 25·1 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in seven of the districts to 10·0 in Waterford—the 14 deaths from all causes registered in that district comprising 2 from whooping-cough, 1 from diphtheria, and 1 from diarrhœa. Among the 122 deaths from all causes registered in Belfast are 2 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 2 from diarrhœa. The 12 deaths in Londonderry comprise 3 from measles and 1 from diarrhœa. The 9 deaths in Dundalk comprise 1 from measles and 1 from whooping-cough.

In the Dublin Registration District the registered births amounted to 262—117 boys and 145 girls; and the registered deaths to 179—93 males and 86 females.

The deaths, which are 44 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 26·7 in every 1,000 of the population. Omitting the deaths (numbering 15) of persons admitted into public institutions from localities outside the district, the rate was 24·5 per 1,000. During the first twelve weeks of the current year the death-rate averaged 28·2, and was 4·8 under the mean rate in the corresponding period of the ten years, 1883–1892.

The number of deaths from zymotic diseases registered is 17, being 4 under the number for the week ended March 18, and 6 below the average for the 12th week of the last ten years. The 17 deaths comprise 1 from measles, 2 from typhus, 1 from influenza, 3 from whooping-cough, 1 from simple-continued fever, and 5 from enteric fever.

Thirteen cases of enteric fever were admitted to hospital, being 3 over the admissions for the preceding week. Twelve enteric fever patients were discharged, 1 patient died, and 72 cases remained under treatment on Saturday, being equal to the number of patients in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 13 cases of scarlatina (being an increase of 7 as compared with the admissions for the preceding week), and 1 case of typhus: 73 cases of the former and 4 of the latter disease remained under treatment in hospital on Saturday.

Thirty-two deaths from diseases of the respiratory system registered, being 4 in excess of the number for the preceding week, but 21 under the average for the 12th week of the last ten years. The 32 deaths comprise 16 from bronchitis and 15 from pneumonia or inflammation of the lungs.

## METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N.,  
Long. 6° 15' W., for the Month of March, 1893.*

|                                                                |   |   |   |                    |
|----------------------------------------------------------------|---|---|---|--------------------|
| Mean Height of Barometer,                                      | - | - | - | 30·085 inches.     |
| Maximal Height of Barometer (on 19th, at 9 a.m.),              | - | - | - | 30·411 „           |
| Minimal Height of Barometer (on 1st, at 9 a.m.),               | - | - | - | 29·267 „           |
| Mean Dry-bulb Temperature,                                     | - | - | - | 46·5°.             |
| Mean Wet-bulb Temperature,                                     | - | - | - | 43·6°.             |
| Mean Dew-point Temperature,                                    | - | - | - | 40·2°.             |
| Mean Elastic Force (Tension) of Aqueous Vapour,                | - | - | - | ·251 inch.         |
| Mean Humidity,                                                 | - | - | - | 79·7 per cent.     |
| Highest Temperature in Shade (on 29th),                        | - | - | - | 64·8°.             |
| Lowest Temperature in Shade (on 17th),                         | - | - | - | 34·0°.             |
| Lowest Temperature on Grass (Radiation) (on 17th<br>and 21st), | - | - | - | 29·0°.             |
| Mean Amount of Cloud,                                          | - | - | - | 49·1 per cent.     |
| Rainfall (on 8 days),                                          | - | - | - | ·288 inch.         |
| Greatest Daily Rainfall (on 2nd),                              | - | - | - | ·101 inch.         |
| General Directions of Wind,                                    | - | - | - | W., E.N.E., E.S.E. |

*Remarks.*

A singularly dry, warm, sunny month—more like May than March. It broke the record as regards height of temperature, deficiency of rainfall, and clearness of the sky and bright sunshine. The arithmetical mean temperature was 5·0° above the average for the month and no less than 9·0° above that of March, 1892 (39·1°). It was even 0·8 above the mean temperature of March, 1868 (47·3°), which had proved the warmest March since these records began in 1865 up to the present year. The deficiency in the rainfall was equally striking, the only comparable year for drought in March being 1871, when, however, ·815 inch of rain fell on 12 days against ·288 inch on 8 days in 1893. Not one-half of the sky was on the average covered with clouds, and the air was often very dry; consequently, the diurnal range of temperature was large—hot sunshine by day being followed by sharp nights. This was markedly the case in central England, where on more than one occasion during the latter half of the month the thermometer in the shade traversed more than 40° within a few hours.

In Dublin the arithmetical mean temperature (48·1°) was considerably above the average (43·1°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 46·5°. In the twenty-eight years ending with 1892, March was coldest in 1867 and 1883 (M. T. = 39·0°), and warmest in 1868 (M. T. = 47·3°). In 1876 the M. T. was 41·1°, in 1879 (the “cold year”) it was 42·5°, in 1888 it was as low as 39·8°; in 1889 it

was  $44^{\circ}0'$ , and in 1890 it was as high as  $45^{\circ}1'$ . In 1891, it was only  $41^{\circ}7'$ ; and in 1892 it was as low as  $39^{\circ}1'$ . As a general rule, February in Dublin is only a shade colder than March. This is due to the fact that the Continental anticyclone usually embraces the British Isles and Scandinavia in March, causing easterly winds. In 1892 February was actually  $2^{\circ}2'$  warmer than March, but in the present year March was  $5^{\circ}4'$  warmer than February.

The mean height of the barometer was 30.085 inches, or 0.169 inch above the corrected average value for March—namely, 29.916 inches. The mercury rose to 30.411 inches at 9 a.m. of the 19th, having fallen to 29.267 inches at 9 a.m. of the 1st. The observed range of atmospheric pressure was, therefore, 1.144 inches—that is, more than an inch and one-tenth.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was  $46^{\circ}5'$ , or  $4^{\circ}8'$  above the value for February, 1893. Using the formula, *Mean Temp.* = *Min.* + (*max.* — *min.*  $\times .485$ ), the M. T. becomes  $47^{\circ}9'$ . The arithmetical mean of the maximal and minimal readings was  $48^{\circ}1'$ , compared with a twenty-five years' average of  $43^{\circ}1'$ . On the 29th the thermometer in the screen rose to  $64^{\circ}8'$ —wind, W.S.W.; on the 17th the temperature fell to  $34^{\circ}0'$ —wind, W.N.W. The minimum on the grass was  $29^{\circ}0'$ , on the 17th and also on the 21st.

The rainfall was only .288 inch, distributed over 8 days. The average rainfall for March in the twenty-five years, 1865–89, inclusive, was 2.061 inches, and the average number of rainy days was 16.5. The rainfall, therefore, was much below the average, while the rainy days were also much below it. In 1867 the rainfall in March was very large—4.972 inches on 22 days; in 1888, 3.753 inches fell on 18 days; in 1866 also 3.629 inches fell on 21 days. On the other hand, in 1871, only .815 of an inch was measured on 12 days, and in 1874 only .953 of an inch fell on 12 days. In 1887 (the “dry year”), 1.485 inches of rain fell on 15 days; in 1889, 1.076 inches fell on, however, as many as 17 days; in 1890 the fall was as much as 3.693 inches on 17 days; but in 1891 only .936 of an inch fell on 16 days, and in 1892 only .991 of an inch on but 9 days.

The atmosphere was thick with dry smoke fog in the city on 8 days, viz., the 2nd, 3rd, 13th, 19th, 20th, 24th, 25th, and 27th. High winds were noted on 11 days, reaching the force of a gale, however, on only one occasion, the 1st. Snow or sleet occurred on the 16th and 17th; and hail fell on the 1st and 16th. The temperature exceeded  $50^{\circ}$  in the screen on as many as 26 days compared with only 7 days in 1892, 9 days in 1891, and 19 days in 1890; while it never fell to  $32^{\circ}$  in the screen, whereas in March, 1892, frost occurred in the shade on as many as 16 nights. The minima on the grass were  $32^{\circ}$ , or less, on 12 nights,

compared with 25 nights in 1892, 20 nights in 1891, and 16 nights in 1890. On 4 days the thermometer rose above  $60^{\circ}$  in the screen, while it never failed to reach  $40^{\circ}$ . In March, 1892, the thermometer did not rise to  $40^{\circ}$  in the screen on 9 days.

The first four days of the month were warm and changeable, with frequent rain or showers and variable, chiefly westerly, winds. As compared with the closing days of February a marked increase of atmospherical pressure occurred after Wednesday, the 1st. On that day a depression passed by the North of Ireland across Scotland towards Denmark. Temperature rose fast, and a considerable rainfall was reported from most British stations. A ridge of high pressure followed this disturbance, but on Friday, the 3rd, a shallower depression in the N., with a "secondary" in the S., again threw the weather into a cloudy, showery condition. Saturday, the 4th, however, proved fine, and for the most part bright in Ireland. On the 3rd the thermometer rose to  $56.7^{\circ}$  in the screen in Dublin.

Singularly favourable and mild weather for the time of year held over the British Islands throughout the week ended Saturday the 11th. The rainfall also was but slight except at some exposed stations in the N.W. of Ireland and N. of Scotland. In Scandinavia, however, conditions were far otherwise—severe cold and excessive gales and snow-storms being experienced. This state of things was brought about by the persistence of an anticyclone, in which at one time (Friday morning) the barometer touched 30.50 inches, off the S.W. and S. of Ireland; while a series of atmospherical depressions of ever increasing intensity swept eastwards across Northern Europe. Of these disturbances the most serious was observed on Friday, at 8 a.m. of which day the barometer was down to 28.72 inches at Hernösand in Sweden as compared with the reading 30.50 inches recorded at the same time at Valentia Island, in Kerry. Fresh to strong westerly to north-westerly winds prevailed generally in the United Kingdom. At first the sky was very cloudy, but towards the close of the week the clouds dispersed and the air became very dry, so that the diurnal range of temperature was large—at Cambridge, on Wednesday, the maximum was  $66^{\circ}$ , the minimum was  $37^{\circ}$ . In Dublin the mean height of the barometer was 30.287 inches, pressure ranging between 30.403 inches at 9 a.m. of Wednesday (wind W.) and 29.996 inches at 9 p.m. of Saturday (wind S.W.). The corrected mean temperature was  $48.4^{\circ}$ . The mean dry bulb readings at 9 a.m. and 9 p.m. were  $46.9^{\circ}$ . On Sunday and again on Tuesday the thermometer rose to  $55.8^{\circ}$  in the screen; on Friday it fell to  $37.0^{\circ}$  in the screen, and  $31.4^{\circ}$  on the grass. The rainfall was .034 inch on one day—Monday. The prevalent winds were westerly and north-westerly.

The most striking feature in the meteorology of the week ended Saturday, the 18th, was the continued depression of the barometer over

the Norwegian Sea and the North of Europe generally. At first temperature was high for the time of year in all parts of the British Islands; but in England the diurnal range was extremely large—amounting to  $30^{\circ}$  or upwards between Sunday afternoon and Monday morning—at Loughborough the extreme thermometer readings at 8 a.m. of Monday were: Max.  $66^{\circ}$ , Min.  $33^{\circ}$ , range  $33^{\circ}$ . As the disturbances in the far North drew after them subsidiary depressions across the United Kingdom, temperature gave way and the weather fell into an unsettled, showery, squally condition. On both Thursday and Friday hail, sleet, and snow occurred in many parts, and electrical phenomena were observed along a track extending from the N. of Ireland across the S. of Scotland to the mouth of the Elbe. On Tuesday night bright aurora borealis had been seen in Scotland and the S. of Ireland. At 8 a.m. of Thursday the barometer stood as low as 28.54 inches at Christiansund on the W. coast of Norway, while it read 30.06 inches at Nice. Needless to say that strong S.W. to N.W. winds and gales swept over Western Europe. In Dublin the mean height of the barometer was 29.842 inches, pressure being observed to range from 29.575 inches at 7 15 a.m. of Thursday (wind, W.N.W.) to 30.386 inches at 9 p.m. of Saturday (wind, E.S.E.). The corrected mean temperature was  $44.6^{\circ}$ . The mean dry bulb readings at 9 a.m. and 9 p.m. were  $43.5^{\circ}$ . On Sunday the screened thermometers rose to  $55.9^{\circ}$ , on Friday they fell to  $34.0^{\circ}$ . The rainfall measured .118 inch on four days. The heaviest rainfall in 24 hours was .058 inch on Saturday. Snow or sleet fell on Thursday and Friday; hail on Thursday. There was a slight fog on Monday night.

Many years have passed since a spell of more beautiful weather than that enjoyed during the week ended Saturday, the 25th, has been recorded in March. After Sunday, which was a cloudy day, very little cloud appeared by day or night, and warm sunny days were followed by calm, sharp nights. Throughout the week, conditions were anticyclonic in Western Europe. The centre of highest atmospherical pressure was generally found over the south of England, France, Belgium, and Holland, and in these regions, under the combined influence of a clear sky and dry air, the diurnal range of temperature was almost phenomenal. For example, at Loughborough, in Leicestershire, on Monday night the screened thermometer sank to  $23^{\circ}$ , while it rose to  $65^{\circ}$  in the course of Tuesday—a range of  $42^{\circ}$  in a few hours. A similar excessive range was observed on Saturday at the same station. In Ireland the extremes of temperature were of the same character, though much less marked. At the very beginning of the week severe frost occurred in Great Britain, the minima in the screen on Sunday being  $26^{\circ}$  at Leith, Shields, and Dungeness;  $25^{\circ}$  at York, and in London;  $24^{\circ}$  at Nairn;  $23^{\circ}$  at Oxford, and Cambridge; and  $20^{\circ}$  at Loughborough. The morning of this day in Ireland broke dull and damp, but the weather improved as the day

wore on. In Dublin light easterly sea breezes by day alternated with calms by night. The mean height of the barometer was 30·313 inches, pressure ranging from 30·411 inches at 9 a.m. of Sunday (wind, E.S.E.) to 30·193 inches at 9 a.m. of Thursday (wind, calm), and again rising to 30·409 inches at 9 a.m. of Saturday (wind, E.). The corrected mean temperature was 48·2°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 46·2°. On Thursday, the screened thermometers rose to 61·9°; on Tuesday, they fell to 38·3°. There was no measurable rainfall after 9 a.m. of Sunday. Bright sunshine was unusually prevalent and greatly exceeded the mean during this week. At the Ordnance Survey Office, Phoenix Park, the sun shone brightly for 64·2 hours, being 76 per cent. of the possible duration of sunshine. In Guernsey the percentage was 90, in Jersey it was 91. These values in the Channel Islands are higher than any hitherto obtained during any period since the sunshine recorders were established in 1881. In nearly all British and Irish districts the percentages of bright sunshine recorded this week are far higher than any previously observed in the month of March.

The weather was by no means so settled during the closing period (26th–31st inclusive) as it had been during the preceding week. Clouds increased at times, and both atmospherical pressure and temperature became unsteady. Rainfall, however, was again markedly deficient in all parts of the United Kingdom, although in parts of Spain, Portugal, and the extreme south of France there were some heavy downpours—for example, .67 inch fell at Lisbon on Tuesday, the 28th, and 1·50 inches at Perpignan on Wednesday, the 29th. Until this last-named day an anticyclone stretched northwestwards across the North Sea, while pressure was low and conditions were cyclonic over the Iberian Peninsula. Light to moderate easterly winds prevailed in the British Islands. The first two days of the period were cool and at times cloudy in Dublin. Tuesday proved brilliant, and on Wednesday (with the displacement of the easterly wind by a S.W. and W. current) the thermometer rose in this city to 64·8°. Thursday was cooler. On Good Friday, the 31st, a depression came in from the Atlantic causing squally S.W. winds and a slight rainfall in the evening. The diurnal range of temperature was again excessive at some inland English Stations—thus, on Tuesday, the thermometer fell from 67° to 26° at Cambridge and from 64° to 24° at Loughborough. In Dublin the barometer ranged from 30·299 inches at 9 a.m. of Sunday (wind, N.E.) to 29·624 inches at 2 p.m. of Friday (wind, S.W.). On Monday the screened thermometers fell to 37·0°, on Wednesday they rose to 64·8°. Rain fell on Friday to the amount of .022 inch only.

The rainfall in Dublin during the three months ending March 31st has amounted to 5·196 inches on 49 days, compared with 4·808 inches on 48 days in 1892, only 1·650 inches on but 32 days in 1891, 7·470



inches on 45 days in 1890, 5·738 inches on 53 days in 1889, 6·097 inches on 41 days in 1888, and a twenty-five years' average of 6·411 inches on 51·0 days (1865-1889, inclusive).

At Knockdolian, Greystones, Co. Wicklow, only ·205 inches of rain fell on 6 days during March; and the total rainfall since January 1, 1893, equals 7·475 inches on 49 days. The corresponding figures for 1892 are ·995 inch on 9 days, the total rainfall since January 1 being 4·205 inches on 40 days.

The rainfall in March at Cloneevin, Killiney, Co. Dublin, was ·26 inch on 9 days, as against ·98 inch on 10 days in 1892, and an eight-years' average of 1·90 inches on 14·5 days. The maximum in the 8 years was 3·59 inches in 1888, the minimum was ·74 inch in 1891.

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#### PHTHISIS AND LIFE INSURANCE.

IN opening the subject of Phthisis and Life Insurance, Dr. Lyon, Medical Officer to the Mutual Life Office, tells us that the mortality is lowest between 4 and 5 years, highest from 34 to 45, and that more mothers die than fathers, since women marry younger than men. It appears from his statistics that the father is the worst relation to die as far as the future health of the family goes, but his figures are too small to found such an important statement upon. It is a subject worthy of investigation by Insurance Companies.

#### ACUTE PNEUMONIA TREATED WITH HYPODERMICS OF TURPENTINE.

M. GINGROT (*Soc. de Médecine des Hôp.*) reports a case of acute pneumonia in a patient twenty-nine years old, successfully treated by genuine hypodermics of turpentine. The turpentine was not commenced until the eighteenth day of the illness, when the patient was apparently dying. Delirium, temp., 104.—*Bulletin Médical*.

#### PENTOL AS AN ANÆSTHETIC.

A. HAGLER has used pentol in 40 cases of teeth extraction. The quantity required to produce anæsthesia is from 5 centimetres for a child to 10 centimetres for an adult. Anæsthesia is produced in from 30 seconds to two minutes. Narcosis is usually produced without excitement, but in some cases there was marked excitement. The duration of the sleep varied from three to seven minutes. During the sleep the eyes became prominent, the pupils enlarged, the conjunctival reflex persisted, but the muscular relaxation of the arms was marked. Consciousness is preserved throughout. The analgesia is complete. Pentol has the advantage over bromide of ethyl of not producing salivation.—*Les Nouveaux Remèdes*, No. 9.

## In Memoriam.

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RAWDON MACNAMARA, M.D. (Hon. Causâ), Univ. Dubl. ;

F.R.C.S.I. ; M.R.I.A.

WITH much regret we record the death of our friend and colleague, RAWDON MACNAMARA. The sad event took place at his residence, 95 St. Stephen's-green, Dublin, on the afternoon of Wednesday, April 12, 1893. Although for a long time back his many friends had observed with concern that Mr. MACNAMARA was in failing health, the immediate cause of his death was an attack of acute pneumonia.

We extract from the *Irish Times* of Thursday, April 13, the following appreciating obituary notice of one whose genial presence, charming good nature, and easy, polished manners will long be remembered by his many friends :—

“ It is with very sincere regret, indeed, that we have to record the death of this most distinguished member of the Dublin medical profession, who succumbed yesterday at his residence, 95 Stephen's-green, to an attack of pneumonia of a few days' standing. By his death the Irish school of surgery has been deprived of one of its brightest ornaments. Mr. MACNAMARA was the second son of Dr. Rawdon Macnamara *primus*, and was born at 28 York-street, Dublin, on the 23rd February, 1822. He was, therefore, in his seventy-first year. Early in boyhood he selected to follow his father's profession, and was indentured on the 15th March, 1838, as an apprentice of Sir Philip Crampton, Bart., and his professional studies were carried out in the College of Surgeons School. He spent five years of his pupilage at the Meath Hospital, during one year of which he discharged the duties of Surgical Resident Pupil. On the 6th March, 1846, he obtained the license of the College, and passed for the Fellowship on the 8th December, 1852. He became a Licentiate of the College of Physicians in 1859, and in 1870 the University of Dublin conferred upon him the honorary degree of M.D., in recognition of his services in the cause of medical education and scientific research in

Ireland. The Medical Society of the University of Christiania conferred upon him their Fellowship *honoris causâ*. Mr. MACNAMARA, shortly after becoming qualified, was appointed Lecturer on Materia Medica in the Dublin School of Medicine, and subsequently lectured on that subject in the Carmichael and Ledwich Schools of Medicine. On the 3rd of August, 1860, he was elected Professor of Materia Medica in the School of the Royal College of Surgeons, Ireland; on August 7th, 1861, he was unanimously appointed Surgeon to the Meath Hospital, *vice* Francis Rynd, deceased. When he became President of the College of Surgeons in 1869, he filled the three offices—President, Professor of Materia Medica, and Surgeon to the Meath Hospital—which his father had occupied. During his presidential year he was the first President who entertained his Excellency Earl Spencer at a magnificent banquet, setting an example which has been followed on subsequent occasions by some of his successors in the presidential chair. At the time of his death he represented the College of Surgeons on the General Medical Council, and his genial and kindly face will be much missed at this board. Shortly after being qualified he acted as medical officer of Peter-street Dispensary, with his life-long friend and best-loved colleague, Sir George Porter, Bart. He was also Examiner in the Royal University, and for several years in the University of Dublin. He was the editor, and re-wrote the last edition of Neligan's 'Medicines and their Uses,' and contributed several very practical papers on surgery. He was Senior Councillor and Senior Professor of the College. Mr. MACNAMARA was beloved by his hospital colleagues and the students, who nearly always called him 'Sir Rawdon.' His lectures were very popular, being largely attended by the students. Even when the subject was dry he always told some very amusing stories, so as to entertain and instruct his class at the same time. He was a most genial and enlightened companion. He was a very good classical scholar, and spoke French and Italian fluently; and after the manner of the late Dr. Thomas Beatty, he made a good speech, told a story well, and made many a Dublin dinner party extremely pleasant. He leaves a wife, two sons, and three daughters all married, to deplore their great loss."

## PERISCOPE.

### PALMISTRY.

IN May of this year appeared the first number of *The Palmist and Chirological Review*, the journal of the Chirological Society. There is a sister society in Dublin, so unobtrusive that we were not previously aware of its existence. The society is not, be it remembered, a fortuitous concourse of amateurs. "None but Fellows of the Society who have passed their second examination, and taken their degrees, are allowed to practice publicly, so that no empty-headed smatterers are turned out to delude a credulous public by prophesying all sorts of unutterable horrors, as all smatterers love to do, to the alarm of their unhappy victims, simply because they are unable, through ignorance, to interpret the character, or read the past life of their subjects with any possible accuracy." Unfortunately chirologists differ as well as doctors, and a notable illustration is given in this first number. In 1889, M. Bué, "a celebrated French Palmist and Astrologer," examined Boulanger's hand (of which a drawing is given), and predicted great success for him, attributing to him "Volonté ferme, résolue, atlant au but avec une persévérance sans égale, que rien détourne du but." A glance at the thumb of the *brave général* will show the absurdity of this attribution. Regardless of the maxim, "Don't never prophesy unless ye know," M. Bué predicted Boulanger's future. "In 1892 the general will begin a new era and rise to an eminent post, surrounded by honour and dignity, and so on up to 1899." In the final prophetic picture he is at the head of France, imposing peace upon the world. The Society was founded in 1889, and meets fortnightly.

### HARVARD MEDICAL SCHOOL.

WE have received the second Bulletin of the Harvard Medical School Association, containing constitution, list of members, &c. The strength of the Association lies, naturally, in Massachusetts, Boston supplying 348 members, and other cities and towns of the State, 357. Of a total 998, 19 members hail from the Dominion, and Chili, Mexico, and Newfoundland contribute a member each.

### PRURITUS ANI.

R.—Hyd. Bichlor, s. gr. .03; Chlor. Ammon. s. gr. 12; Acidi Carbol. 4 grammes; Glycerini, 60 grammes; Aquæ Rosæ, 115 grammes. Make a solution. To be applied night and morning.—*Ther. Monatsch.*, April, 1892.

“..... The Company have completely overcome it.”

THE CHEMIST AND DRUGGIST (London), 28/1. 33.

“The novelty about Liquor Carnis which warrants us in including a note on the liquor in this section is the decided improvement which the company have effected in the taste of the liquor. The idea of raw beef is somewhat repulsive to many patients, and for that reason, probably, many discovered that

## Caffyn's LIQUOR CARNIS

as first placed on the English market had a raw beef taste. It was feeble to our thinking; but now the company have completely overcome it by some means or other, and the liquor has an agreeable smack of culinary herbs. Our examination of the liquor also enables us to say that this improvement has been effected without minimising the high proteid value of the liquor upon which we have previously commented. Mr. Shepperson, managing director of the company, informs us that last year the company purchased a

property in Buckinghamshire, which would enable them to manufacture Liquor Carnis and its various preparations in a district where cattle could be obtained fresh from the fields, and where a factory could be placed in surroundings that were healthful and open. Mr. Shepperson adds that the ‘factory’ is considered to be perfect, and it is the only one of its kind in Europe. The company is to be congratulated on the progress which it is making under the enterprising manager's direction.”

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# MEDICAL OPINION.

## British Medical Journal.

"We have submitted the LACTOPEPTINE to trial, and can confidently recommend it."

"A glance at the formula of LACTOPEPTINE would convince even the most sceptical of the valuable results that must ensue through its administration. Composed of *ptyalin, pepsin, pancreatine, hydrochloric and lactic acids*, it is a combination of all the digestive agents, consequently can never be administered without giving the utmost satisfaction, for if there is a deficiency in the system of all or any of these agents, LACTOPEPTINE will supply it, and thus assist in digesting the food, enabling the organs that produce these principles of digestion to rest and recuperate their relaxed energies."

## Braithwaite's Retrospect.

"Such a formula is a desideratum, considering that the preparations of Pepsin now in use have disappointed the expectations of many practitioners."

## Medical Press and Circular.

"We have no hesitation in affirming that LACTOPEPTINE has proved itself to be the most important addition ever made to our Pharmacopoeia."

## Physician and Pharmacist.

"We have employed it in cases of obstinate dyspepsia, and have been gratified—even surprised—at the very excellent results obtained in the great majority of cases."—*Medical and Surgical Reporter*, Philadelphia.

## Medical and Surgical Reporter.

## "WHEN DOCTORS DISAGREE,"

The difficulty of deciding is proverbial. When Medical Opinion is unanimous, however, there can be no further question, and it is safe to say that, as the most powerful philosophical combination of digestive ferments before the profession,

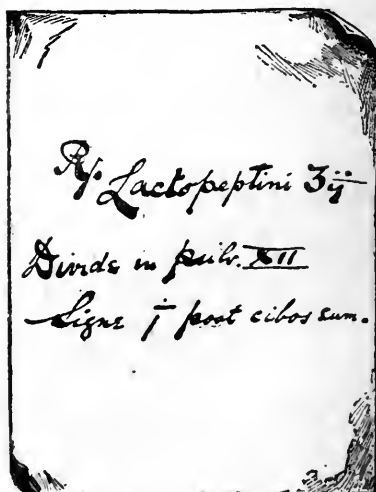
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In this preparation advantage has been taken of the solubility of Pepsine in Glycerine to produce a convenient and desirable *liquid form* of this valuable medicine; whilst the preservative qualities of the menstruum confer upon the Acid Glycerine of Pepsine the property of keeping for any length of time.

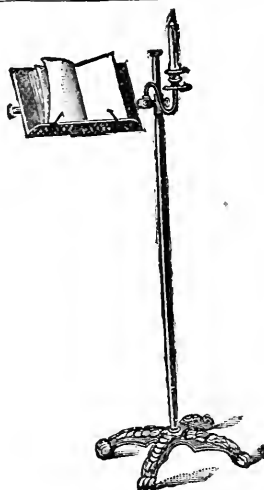
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The published experiments of G. F. DOWDESWELL, Esq., M.A., Cantab., F.C.S., F.L.S., &c., Dr. PAVY, Professor TUSON, the late Professor GARROD, Dr. ARNOLD LEES, and others, conclusively demonstrate the excellence, high digestive power, and medicinal value of the above preparations.

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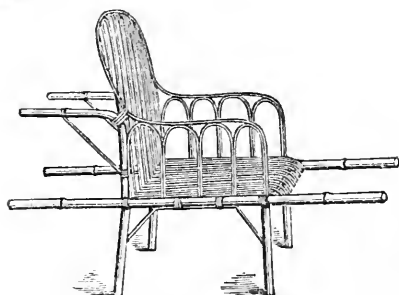
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| Polished Walnut Desk | - | - | - | £1 1 0 |
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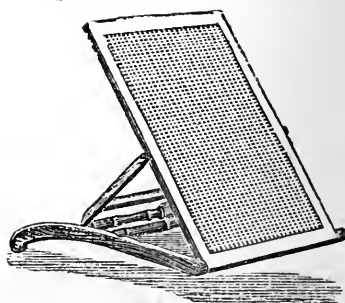
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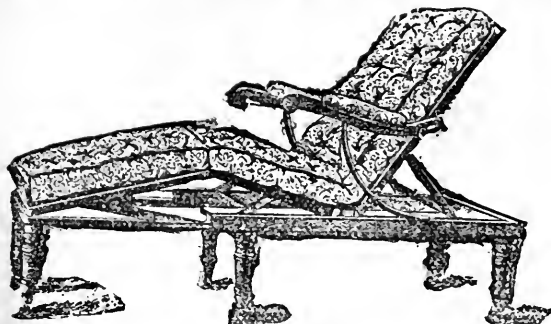
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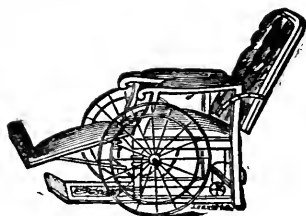
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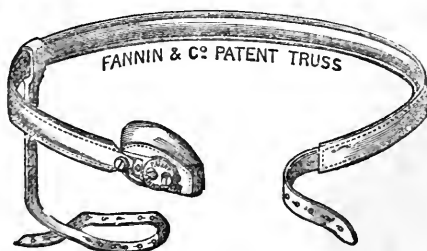
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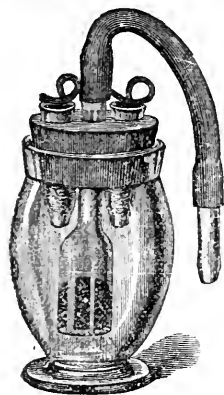
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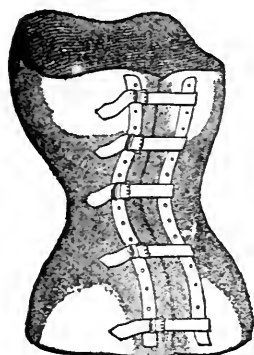
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Circumference at axilla.

„ waist.

„ hips.

Length from axilla to great trochanter.

In severe angular cases circumference over apex of curve, position of same, and contour should be given; in lateral cases a description of the case.

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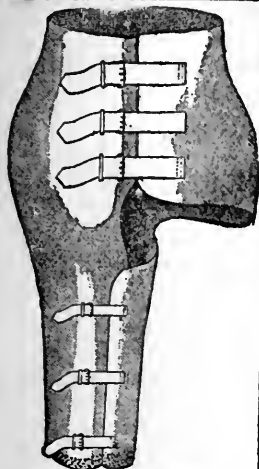
„ heel and instep.

Length from below knee to ground.

„ of foot.

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" hips.

" thigh, top of

" above knee.

Length from waist to groin.

State if for right or left side.



## LEG SPLINT.

Circumference at top of thigh.

" above knee.

" at knee.

" below knee.

" calf.

" ankle.

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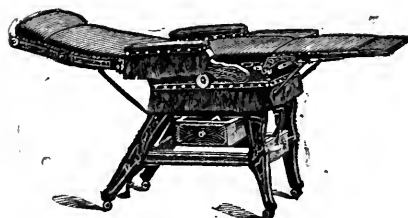
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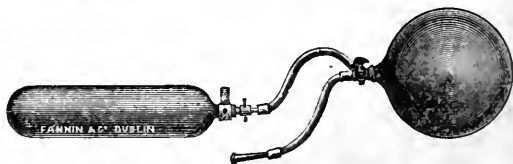
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